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ABSTRACT

The Accelerated Schools Approach is a whole-school reform being implemented in more than 1,000 U.S. elementary and middle schools. The program is characterized by a school structure that sets high expectations for students and teachers, a governance structure with broad teacher participation, and a "powerful learning" approach to curriculum and instruction. This report looks at the implementation of the program in eight elementary schools and evaluates program effects at the third grade. An interrupted time series technique was used to study the effectiveness of the Accelerated Schools model. In the first 3 years of implementation, schools focused on reforming school governance and culture, turning to curriculum and instruction only in the third or fourth year. The findings indicate that the Accelerated Schools model improved standardized test scores in reading and mathematics once the schools in the study turned to changing curriculum and instruction. These findings should be interpreted with caution because of the small number of schools examined and the focus on a single grade. Impacts were not uniform across all students or all schools. The largest impacts were observed among students who would have scored in the middle of their school's test score distribution without the reform and among schools that had the lowest scores before the reform began. Two appendixes contain supplementary tables and the qualitative data protocols. (Contains 6 figures, 18 tables, and 42 references.) (SLD)

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EVALUATING THE ACCELERATED SCHOOLS APPROACH

A Look at Early Implementation and Impacts on Student Achievement in Eight Elementary Schools

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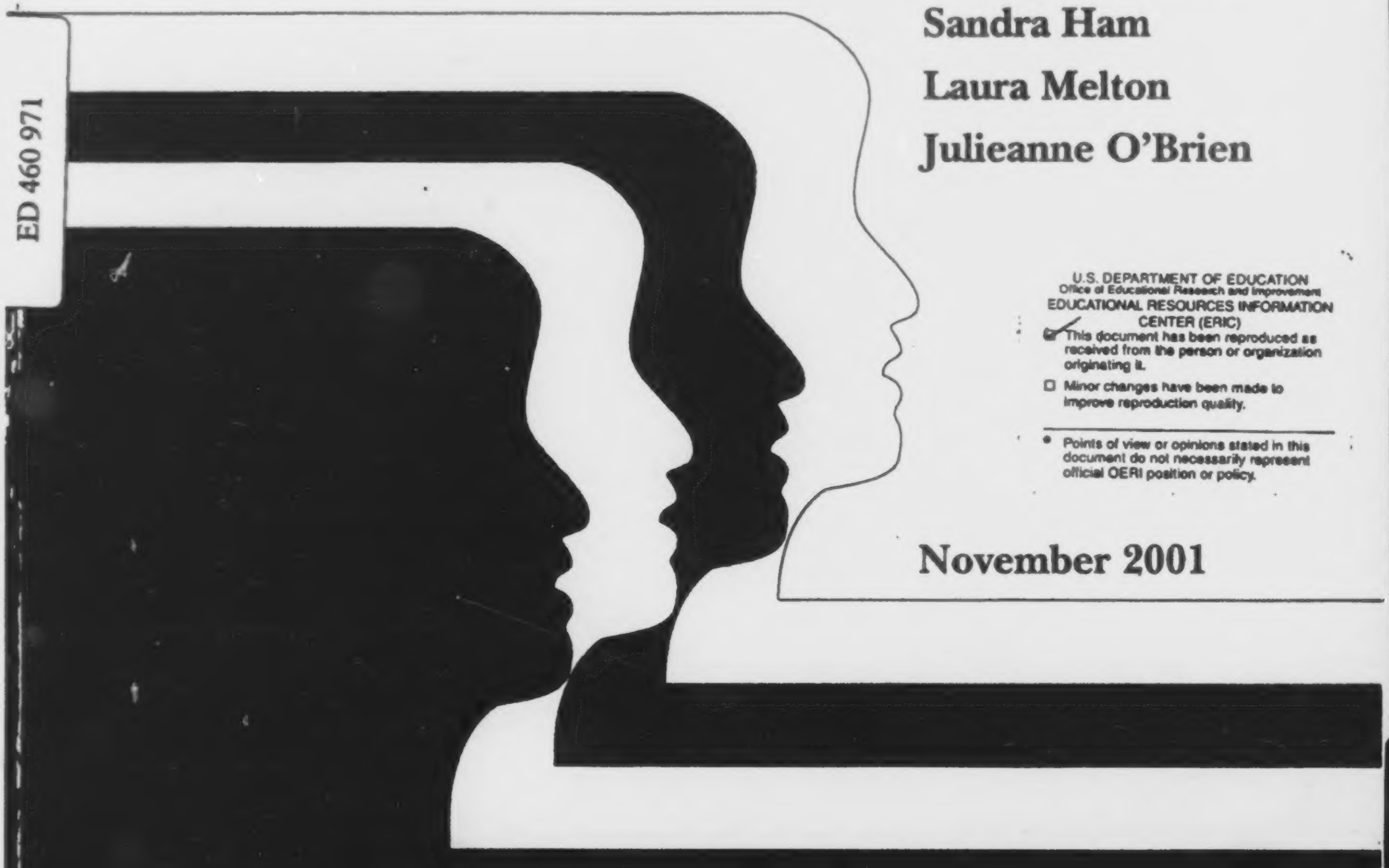

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Manpower Demonstration Research Corporation, December 2001

SUMMARY OF

Evaluating the Accelerated Schools Approach

A Look at Early Implementation and Impacts on Student Achievement in Eight Elementary Schools

Howard S. Bloom, Sandra Ham, Laura Melton, and Julieanne O'Brien

A key challenge faced by elementary schools is finding effective ways to help all students develop the skills needed to succeed in later education and the labor market. Remedial education programs have been a traditional response to academic problems, especially among poor and minority students, but past research has shown that this approach can keep students from joining the educational mainstream. The Accelerated Schools approach charts a different course, seeking to "accelerate" rather than slow down the learning of children at risk of school failure.

Developed by Dr. Henry M. Levin and his colleagues at the Accelerated Schools Project (ASP), the Accelerated Schools model is now being used in more than 1,000 elementary and middle schools. Accelerated Schools seek to (1) create a new, supportive school culture that sets high expectations for teachers and students; (2) institute a governance structure characterized by broad staff participation in decision making and by procedures for taking stock of the school's strengths and problems and for generating solutions; and (3) introduce a "powerful learning" approach to curriculum and instruction that is more challenging, interactive, project-based, and relevant for students than traditional approaches.

At ASP's invitation and with funding from the Ford Foundation, MDRC conducted an independent evaluation of the Accelerated Schools reform in eight elementary schools around the country. The schools selected by the research team served a high proportion of at-risk students, had implemented the early version of the reform's main components by the early 1990s, did not institute other major reforms during the study period, and were able to supply the requisite data. In the study's "interrupted time series" design, the schools' third-grade test scores in reading and math during the three years before the reform was launched were used to predict what the third-grade test scores would have been without the reform during each of the five following years. To estimate impacts on student achievement, the predicted test scores were then compared with the actual scores. The study focused on successive cohorts of third-graders because this grade marks a critical point in the development of basic reading and math skills.

Key Findings

- During the first three years of implementation, the schools focused on reforming school governance and culture, turning to curriculum and instruction only in the third or fourth year.
- The reform's impacts on third-grade test scores tracked schools' implementation of it. There were no positive impacts in the first two years, a slight decline in the third year — as schools began to modify their curriculum and instruction — and a gradual increase in the fourth and fifth years. The average third-grade reading and math scores in the fifth year exceeded the predicted levels by a statistically significant amount.
- These impacts were not uniform across all students or all schools. The largest impacts were observed among students who would have scored in the middle of their school's test score distribution without the reform and among the schools that had the lowest test scores before launching the reform.

These results should be interpreted with caution for several reasons: They are based on a sample of only eight schools, the positive impacts took four to five years to emerge, and it is not known whether the impacts will persist in later grades. Nevertheless, these findings show that the Accelerated Schools approach improved academic achievement in a group of mostly at-risk students.

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A Look at Early Implementation and Impacts on Student Achievement in Eight Elementary Schools

Howard S. Bloom
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with
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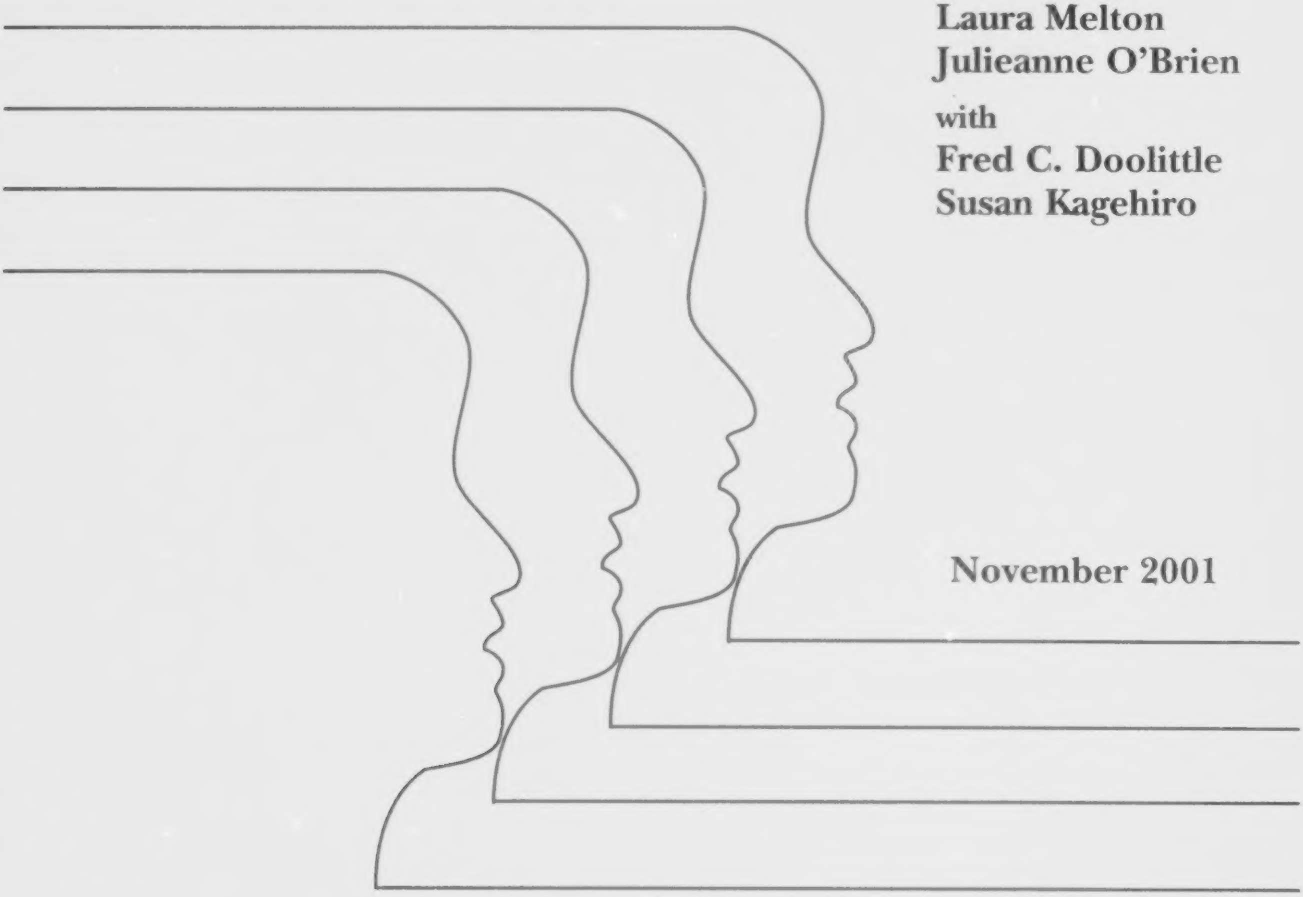

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Overview

A key challenge faced by elementary schools is finding effective ways to help all students develop the skills needed to succeed in later education and the labor market. Remedial education programs have been a traditional response to academic problems, especially among poor and minority students, but past research has shown that this approach can keep students from joining the educational mainstream. The Accelerated Schools approach charts a different course, seeking to "accelerate" rather than slow down the learning of children at risk of school failure.

Developed by Dr. Henry M. Levin and his colleagues at the Accelerated Schools Project (ASP), the Accelerated Schools model is now being used in more than 1,000 elementary and middle schools. Accelerated Schools seek to (1) create a new, supportive school culture that sets high expectations for teachers and students; (2) institute a governance structure characterized by broad staff participation in decision making and by procedures for taking stock of the school's strengths and problems and for generating solutions; and (3) introduce a "powerful learning" approach to curriculum and instruction that is more challenging, interactive, project-based, and relevant for students than traditional approaches.

At ASP's invitation and with funding from the Ford Foundation, MDRC conducted an independent evaluation of the Accelerated Schools reform in eight elementary schools around the country. The schools selected by the research team served a high proportion of at-risk students, had implemented the early version of the reform's main components by the early 1990s, did not institute other major reforms during the study period, and were able to supply the requisite data. In the study's "interrupted time series" design, the schools' third-grade test scores in reading and math during the three years before the reform was launched were used to predict what the third-grade test scores would have been without the reform during each of the five following years. To estimate impacts on student achievement, the predicted test scores were then compared with the actual scores. The study focused on successive cohorts of third-graders because this grade marks a critical point in the development of basic reading and math skills.

Among the study's key findings:

- **During the first three years of implementation, the schools focused on reforming school governance and culture, turning to curriculum and instruction only in the third or fourth year.**

- **The reform's impacts on third-grade test scores tracked schools' implementation of it. There were no positive impacts in the first two years, a slight decline in the third year — as schools began to modify their curriculum and instruction — and a gradual increase in the fourth and fifth years. The average third-grade reading and math scores in the fifth year exceeded the predicted levels by a statistically significant amount.**

- **These impacts were not uniform across all students or all schools. The largest impacts were observed among students who would have scored in the middle of their school's test score distribution without the reform and among the schools that had the lowest test scores before launching the reform.**

These results should be interpreted with caution for several reasons: They are based on a sample of only eight schools, the positive impacts took four to five years to emerge, and it is not known whether the impacts will persist in later grades. Nevertheless, these findings show that the Accelerated Schools approach improved academic achievement in a group of mostly at-risk students.

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Preface

This report brings new techniques and new findings to an education policy debate that is focused on two critical questions. First, can the standards of evidence for judging the effectiveness of education reforms be raised to help policymakers and program funders as they make decisions based on research findings? Second, can "whole-school" reforms — education interventions aimed at transforming schools on all fronts — improve student achievement?

The Accelerated Schools approach is an influential whole-school reform targeted at students at risk of underachievement. This study owes much to the reform's developer, Dr. Henry Levin, for his willingness to subject his work to an independent evaluation and to the Ford Foundation's support of such essential research. To measure the reform's effects on student achievement, the study used "interrupted time series," a technique that — though rarely used in education research to date — shows potential for wide application in settings where randomized experiments are not feasible. It is hoped that broadening and strengthening the techniques for measuring program impacts, as this study does, will give rise to fruitful new lines of research on education reforms.

The study also shows that implementing the Accelerated Schools approach improved standardized test scores — once schools turned to changing curriculum and instruction. The findings need to be interpreted cautiously because of the small number of schools examined and the study's focus on just one pivotal stage of elementary schooling (the third grade). But they make a key contribution to the effort to learn whether whole-school reforms can raise student achievement and to discover how existing reforms might be improved to achieve this goal more effectively.

Judith M. Gueron

Acknowledgments

This report is the result of the efforts of many people. At the Accelerated Schools Project (ASP), we especially wish to thank Henry Levin (its founder), Gene Chasin (the current Director of its National Center), Rock Clapper, Beth Keller, Russell Sills, Pilar Soler, Rosalie Whitlock, and Pia Wong. Staff at ASP's Satellite Centers also provided valuable assistance, especially during the site selection phase.

Staff at each of the Accelerated Schools in the study worked with us to refine the research design, assemble the necessary student records, and gather critical information during field research. While many people at each school and in each school district were helpful, particular thanks are owed the schools' principals: Louise Wolcott of Blanche Pope School in Hawaii, Joy Tucker of Lucy Wortham James School in Missouri, Barbara Whitney of Mary Wright School in South Carolina, Maureen Granger and Tom Livingston of McCleery School in Illinois, Ann Oplinger of Memminger School in South Carolina, Migdalia Maldonado-Torres of PS 108 in New York, Carol Hall Whittier of Shepard School in Missouri, and Les Crawford of Sheppard School in California.

Support from the Ford Foundation made this project possible. Janice Petrovich and Cyrus Driver, both at the Foundation, contributed to the study by offering their insights about the key questions and the findings. We are grateful to the Foundation for supporting our efforts to develop new methods of capturing the impacts of whole-school reforms and to apply these methods to studying Accelerated Schools.

At MDRC, many others contributed to the project. Robert Granger acted as manager early on, overseeing the study design and initial site selection. JoAnn Rock took over as the project evolved, managing data collection, parts of the analysis, and preparation of the early drafts of some chapters. The late Daniel Friedlander helped develop the impact analysis. James Kemple and Robert Ivry served as senior reviewers, helping us understand the meaning of the findings. Joel Gordon led the effort to collect and process student records, working with Anita Kraus and Galina Farberova. Jennifer Pastor, Rochanda Jackson, and Rachel Cytron assisted in selecting the sites and conducting site visits. Vivian Mateo-Golden ably coordinated the production of many drafts of the report, prepared the exhibits and references, and fact-checked many of the findings. Valerie Chase edited the report, going well beyond the usual editorial role to help us develop new ways to explain the statistical approaches used in the analysis. Robert Weber assisted in editing the report, and Stephanie Cowell did the word-processing.

The Authors

Executive Summary

Elementary schools are expected to teach children many skills that form the basis for success in later education and the labor market. Schools' typical response to low academic achievement, especially among poor and minority students, has been remedial education programs that slow down the pace of instruction or simplify the content of the curriculum. Past research suggests that this approach has serious limitations and can put students who are at risk of school failure at still greater disadvantage.

The Accelerated Schools approach charts a different course, calling for a complex series of school changes designed to "accelerate" the learning of at-risk children. Developed over the last 15 years by Dr. Henry M. Levin and his colleagues under the aegis of the Accelerated Schools Project (ASP), the approach is now in use in more than 1,000 elementary and middle schools. Accelerated Schools aim to (1) create a new, supportive *school culture* that helps all children learn and sets high expectations for teachers and students; (2) institute a new *governance structure* consisting of a structured process for taking stock of the school's problems and strengths, work groups (called *cadres*) devoted to school issues of concern, and school-wide meetings at which important decisions are reached by consensus; (3) use *powerful learning*, a teaching approach that is more challenging, interactive, project-based, and relevant for students than traditional instruction; and (4) receive *technical assistance* in implementing the reform from ASP's National Center and 11 Satellite Centers across the country.

At ASP's invitation, the Manpower Demonstration Research Corporation (MDRC) conducted an independent evaluation of Accelerated Schools at the elementary level. The objective of the study, which was funded by the Ford Foundation, was to assess whether the Accelerated Schools approach improved student achievement in a small sample of schools that served at-risk students and had launched the reform early in its development. This report, the culmination of the study, presents findings on the reform's implementation and impacts. All eight schools in the study adopted the reform in the early 1990s, before powerful learning — a key component — was refined to make its implications for classroom practice clearer and before the technical assistance provided by ASP was extended and improved. The study examined the Accelerated Schools model's effects on the reading and math achievement test scores of the schools' third-grade cohorts during each of the five years after the reform began to be implemented. The third grade was chosen as the focus of the study because it marks a critical point in the development of basic reading and math skills and is late enough in elementary school for students to have been exposed to the reform for a considerable time (up to three years).

I. Findings in Brief

- Three years after launching the Accelerated Schools model, all the study schools had adopted the practices aimed at improving school culture and governance. Changes in curriculum and instruction were implemented less systematically and more slowly, with many schools starting to address these topics only in the third or fourth year of implementation.
- At the end of the five-year follow-up period, the average third-grade math and reading test scores in the participating schools were higher than those during the baseline period by a statistically significant amount. The magnitude of these test score improvements is similar to that found in the well-known Tennessee class-size experiment.

- The findings suggest that students who would have been in the middle of their school's test score distribution without the reform were the most likely to experience an improvement in test scores.
- The observed increases in average test scores were largest among the study schools that had the lowest average test scores before implementation of the Accelerated Schools model.
- Improving test scores in schools that serve at-risk students has proven to be an extremely difficult challenge to meet, making the present findings of particular interest. Nevertheless, the effects found here should be interpreted with caution because they are based on a sample of only eight Accelerated Schools that had reached an advanced stage of implementation by the early 1990s, did not emerge until four to five years after the reform was launched, and may not persist in later grades.

II. Study Design

To estimate the reform's impacts on student achievement over a period of sufficient length, the schools in the study were required to have launched the Accelerated Schools reform at least five years before the start of the study period and to have five years of baseline test score data. ASP staff nominated 91 elementary schools that they believed had been implementing key elements of the reform for at least five years, and the MDRC research team independently selected schools from this group. The eight urban and rural schools in the final sample were chosen for serving mostly at-risk students, having launched the reform and implemented its main components by the early 1990s, not having instituted other major reforms during the study period (to help rule out alternative explanations for any test score impacts observed), and being able to supply the requisite data. It is important to bear in mind that the study schools, though not a hand-picked group selected on the basis of test score trends, are also not a representative sample of Accelerated Schools from the early 1990s.

The study period encompassed a baseline (prelaunch) period of three years[1] and a follow-up (postlaunch) period of five years. The findings are based on an *interrupted time-series* design in which the test score level in each subject (reading and math) that would be expected in the absence of the Accelerated Schools reform was estimated using test score data from the baseline period. Specifically, it was assumed that, if the reform had not been implemented, the test score level during the follow-up period would have been the same as the average level during the three baseline years. The difference between the expected level and the actual level in each follow-up year was taken as an estimate of the Accelerated Schools reform's *impact* on test scores in that year.[2] The impact analyses focus on the entire sample of schools rather than on individual schools.

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[1] Impacts were also estimated using all five years of baseline data, but this procedure did not materially change the findings and was not used for reasons described in the following paper: Howard S. Bloom, "Measuring the Impacts of Whole-School Reforms: Methodological Lessons from an Evaluation of Accelerated Schools" (New York: MDRC, 2001).

[2] The small changes in the composition of the student body that were observed, which might also have influenced test scores, were controlled for through statistical adjustments.

III. Implementation of the Accelerated Schools Approach

- **During their first three years of implementation, the study schools focused on reforming school governance and culture; substantial changes in curriculum and instruction were typically not made until the third or fourth year.**

Most schools used the reform's "inquiry" process to take stock of current school performance and to identify key issues to address. They then used cadres to analyze courses of action and to develop recommendations, a steering committee to advise the cadres and coordinate the process, and school-wide meetings to decide important questions. The adoption of these processes was generally credited with creating an atmosphere of greater trust and support for staff, raising expectations of teachers and students, and increasing staff participation in decision-making.

- **Administrators and faculty working in these schools reported that when they first adopted the Accelerated Schools model, powerful learning was not precisely or concretely defined.**

Many staff were confused about the instructional changes prescribed by the Accelerated Schools model. They also reported a lack of explicit guidance from ASP, especially about instructional practices, after the start-up phase of the reform. During the first three years of the follow-up period, most of the schools used the governance procedures to reach their own decisions about instruction, with an emphasis on aligning the curriculum with new state or local standards rather than on developing new instructional techniques or new classroom practices.

IV. Impacts on Student Achievement

- **Impacts tracked implementation.**

On average, there was no systematic change in test scores during the first two years of Accelerated Schools implementation, during which time the schools focused on establishing supportive cultures and decision-making processes. During the third year, test scores declined somewhat, as schools began to make instructional changes that may have temporarily disrupted instruction. During the last two years of the follow-up period, test scores gradually rose.

- **In the fifth follow-up year, the average test scores in the sample schools exceeded the baseline level in both reading and math by a statistically significant amount.**

In the fifth year of the follow-up period, the average third-grade reading and math test scores in the study schools overall were 0.19 standard deviation and 0.24 standard deviation above their respective baseline averages. These differences, which are statistically significant, are small to modest by the conventional standards of evaluation research. However, the impacts found in the Tennessee class-size experiment — which are widely considered policy-relevant — are of similar magnitude. The positive impacts in the last follow-up year are especially noteworthy given the low cost of this early version of the Accelerated Schools model relative to that of other school reform approaches.

- **The average reading and math scores in the study schools increased 7 to 8 percentile points relative to the scores of students who took the same tests, leaving the study schools at or near the middle of their state or national distributions.**

The positive impacts on test scores in the fifth follow-up year reflect an overall increase in the average reading score from the 37th percentile during the baseline period to the 44th percentile in the fifth follow-up year. The corresponding increase in the average math score was from the 45th percentile to the 53nd percentile.

- **The impacts were not uniform across students or schools. Students who would have been in the middle of their school's test score distribution without the Accelerated Schools reform were the most likely to experience test score improvements. The schools that had the lowest test scores during the baseline period were the most likely to experience large impacts.**

The differential impacts on different groups of students may be attributable to the fact that the instructional changes made were not substantial enough to affect the lowest-achieving students. It is also possible that lower-performing students had higher mobility — that is, were more likely than higher-performing students not to have attended the Accelerated School during the entire follow-up period — and therefore received less exposure to the reform. Nevertheless, the Accelerated Schools initiative improved the performance of even lower-performing students, because (especially in the initially lowest-performing schools) even those students who scored in the middle of their school's distribution were typically below average nationally or statewide. Furthermore, the schools that during the baseline period had the lowest test scores relative to their state or national norms experienced the largest relative gains.

V. Implications for the Accelerated Schools Reform

Together these findings demonstrate the potential of the Accelerated Schools approach, as it was implemented early in its development, to improve student achievement. Given the difficulty of raising test scores in schools like those in this study and the relatively low cost of Accelerated Schools, these findings are noteworthy.

The present study examined the effect of the Accelerated Schools model on the test scores of all third-grade students who attended the study schools during the follow-up period. Although the level of student mobility in these schools was relatively high, this focus was chosen because it addresses a policy-relevant question: What were the impacts of Accelerated Schools on third-grade students when the reform was implemented under real-world conditions — which include, among other things, high student mobility? Many other studies of education reforms, in contrast, have asked how the reform under study affects only those students who remain in the schools long enough to receive a full "dose" of the reform. Both questions are important, but the present findings may not be directly comparable to those from the latter type of research; specifically, the impacts reported here are likely to be smaller than those found in other studies.

These findings also suggest a need for some operational refinements of the Accelerated Schools approach, many of which have been put in place since the schools in this study began implementing the reform. The lack of emphasis on curriculum and instruction in the initial years of implementation, the negative impact on achievement in the third follow-up year, and the appearance of positive impacts only at the end of the follow-up period all point to a need to focus on curriculum and instruction earlier in the reform process and to make powerful learning easier to implement. ASP now provides more technical assistance and encourages schools to change their curriculum and instruction earlier in the process. Further, ASP has worked extensively to make the concept of powerful learning more concrete — for instance, by providing staff with specific illustrations of ways in which they could modify their classroom practices.

Chapter 1

Introduction

Many poor and minority students leave public elementary schools without the academic skills needed to succeed in further education and to reach their full adult potential. Students who fall behind academically in elementary school have a difficult time catching up to the educational mainstream; for example, academic achievement in the third grade has been found to be correlated with success in high school and postsecondary schooling.[1] Traditional public schools in poor and minority communities often address the problem of underachievement through remedial programs that slow down the pace of learning or simplify the content of the curriculum. In some cases, this is in response to individual students who are found to have only rudimentary academic skills. In other cases, it arises from schools' perception that poor and minority students as a group are slow achievers.

Past research suggests that school strategies that rely on remediation and ability grouping may contribute to low academic growth and achievement in the long term[2] and to differences in academic achievement along racial and socioeconomic lines.[3] The main disadvantage of this approach is that children in low-achievement classes or schools are typically offered lower-quality instruction and curricula than other children. The resulting differences in learning opportunities may play an important causal role in the performance gap between low- and high-achieving students.[4] There is strong evidence in the educational literature that participation in a demanding academic curriculum promotes academic success.[5] In addition, the literature suggests that the degree of opportunity to learn rigorous academic subjects — for instance, in advanced placement courses — varies across socioeconomic and racial groups. Poor and minority students' lesser access to beneficial learning opportunities begins early in their education, reducing the likelihood of their being exposed to an academic curriculum in high school that meets the entrance requirements of most four-year colleges.[6]

I. The Accelerated Schools Project (ASP)

The Accelerated Schools approach is one of the nation's best-known whole-school reforms designed to improve the school performance of students at risk of underachievement. Henry Levin of Stanford University established the Accelerated Schools Project (ASP) to address two issues: traditional schools' lack of success in educating at-risk students and the growing proportion of such students entering public schools. According to ASP, more than 1,000 elementary schools and middle schools in diverse communities in this country and abroad have adopted the Accelerated Schools approach, and ASP has 11 Satellite Centers that provide support to schools in this network.

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[1] Copple, Deich, Brush, and Hofferth, 1993; Carnegie Corporation, 1996.

[2] Dougherty and Barth, 1997; Education Trust, 1996.

[3] Oakes and Lipton, 1990.

[4] Nettles, 1997; Glover and Marshal, 1992.

[5] Annie E. Casey, 1997; Solorzano and Solorzano, 1995; Natriello, McDill, and Pallas, 1990.

[6] Gamaron, 1987.

The Accelerated Schools approach calls for a complex series of changes throughout a school that are intended to accelerate the learning of at-risk children. These changes, described more fully in Chapter 2, can be grouped into four areas. First, Accelerated Schools seek to create a new organizational culture committed to helping all students learn and succeed in school, setting high expectations for teachers and students, and creating a supportive and trusting environment in the school. Second, Accelerated Schools institute a new governance structure designed to support a far-reaching assessment of the school's current performance and areas in need of improvement as well as the development of potential solutions. As part of this process, Accelerated Schools open the door to broader and more egalitarian staff participation in decision-making through new bodies — such as "cadres" that address specific issues, a "steering committee," and meetings that include the entire staff and at which all important decisions are made. Third, Accelerated Schools seek to introduce a teaching approach that is intended to be more challenging, interactive, project-based, and relevant for students than traditional instruction. Finally, ASP's National Center and Satellite Centers provide technical assistance to schools, helping them use the reform's approach to improve their schools. The Satellite Centers train school staff and committees at the launch of the reform and provide schools with ongoing support and networking opportunities. ASP has continued to refine its definition of and support for the reform, most importantly by seeking to strengthen aspects of instruction and curriculum and the technical assistance provided to schools.

The national prominence of Accelerated Schools as a reform is partly attributable to its low out-of-pocket cost relative to that of other whole-school reforms.[7] Its primary costs are that of hiring a part-time staff person from the school or district to serve as a "coach" during the implementation process and that of training local teachers and school staff. The rest of the labor and materials required by the reform are expected to be made available through reallocation of existing resources. Although little detailed information about the costs of implementing Accelerated Schools is available from independent sources, one study estimated that the first-year cost of implementing the approach ranges from a low of $34 per student for the "basic model" to a high of $160 per student.[8] To put these costs in perspective, the author also provided estimates of the costs of implementing two other major comprehensive school reform models — Robert Slavin's Success for All, a reading program for elementary school students; and James Comer's School Development Program, a whole-school reform. The cost estimates for Success for All range from $321 to $681 per student,[9] and those for the School Development Program range from $115 to $438 per student.

II. An Evaluation of Accelerated Schools

The Manpower Demonstration Research Corporation (MDRC) was invited by ASP to conduct an independent evaluation of a sample of elementary schools implementing the Accelerated Schools reform. To ensure the independence of the evaluation, ASP requested that MDRC raise the funds needed to conduct it. The study, which was supported by the Ford Foundation, had two goals: (1) to develop better methods for assessing the effects of whole-school reforms such as Accelerated Schools and (2) to use these new methods to estimate the effects of the Accelerated Schools reform on student achievement in a sample of "mature" Accelerated Schools at the elementary level. Here maturity is meant to indicate that the schools were experienced in implementing the reform, not that they implemented the reform optimally or in a way that was representative of Accelerated Schools at the time. The present work was intended to be an exploratory first stage in a possible larger project that would apply the research methodology introduced here to a sample of schools that is both larger and more representative of schools implementing the current version of the model.

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[7] To get a complete picture of a reform's cost, one would compare the marginal costs of implementing it (the value of the net additional resources that it requires) with the marginal benefits that it brings (its net impacts) on a common accounting basis (for example, per student). In this case, such a thorough analysis is not possible for lack of data.

[8] Barnett, 1996.

[9] These findings were obtained by dividing the total costs of Success for All listed in Table 9-2 of Barnett (1996) by the number of students per school (500) used by the author to estimate the total costs presented in the table.

The goal of research on the effects of whole-school reforms such as Accelerated Schools on student achievement is to estimate the difference that the reform makes by comparing the outcomes for students attending schools that have implemented the reform with the outcomes that students would have experienced in the absence of the reform. It is often straightforward to document outcomes such as achievement and attendance for students attending schools that have implemented a reform. But to understand the difference a reform makes, it is necessary to compare these outcomes with those that would have occurred under the previous or usual education program; the differences between the two serve as estimates of the "impacts," or effects, of the program.

The several studies of Accelerated Schools conducted to date employed a variety of methods for estimating impacts on student achievement.[10] Most of them examined a single school and used the outcomes for students in the same school in the year prior to implementation of the reform as the benchmark — referred to as the "counterfactual" in the language of evaluations — against which to compare students' achievement after the reform was launched. Other studies used as the counterfactual the outcomes for students in demographically similar schools that did not implement the reform.[11]

A. Goals of the Study

The study design was developed with three considerations in mind. First, it was important to assess the impacts of the Accelerated Schools reform only in schools that had implemented the key elements of the model — that is, in mature Accelerated Schools rather than in schools that were in the midst of launching the reform or were known to have encountered serious problems in sustaining implementation of it; at the same time, the schools included in the study were not hand-picked for being particularly successful in implementing the approach. Second, it was important to attempt to rule out alternative explanations for the impacts observed. For example, the study would have been compromised if other reforms or important school changes, such as new achievement standards or an entirely new curriculum, occurred simultaneously with implementation of the Accelerated Schools reform. These first two points were addressed through the procedures used to select the study schools and to conduct field research on the extent of implementation in those schools. Third, it was necessary to identify a group of students who did not receive an Accelerated Schools education who could be compared with students in the Accelerated Schools in the study. This last goal was realized using a "backward-looking interrupted-time-series" methodology in which the counterfactual is the outcomes for students who attended the study schools before the reform was implemented.

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[10] For a review of this literature, see "Research Background on Accelerated Schools" and "Accomplishments of Accelerated Schools" at the Accelerated Schools Project Web site: http://www.acceleratedschools.net.

[11] In both cases, statistical techniques can be used to adjust for observed differences in characteristics between comparison students and students in the reformed schools.

It should be emphasized that the study was designed to estimate the impacts of the Accelerated Schools reform on student achievement — as reflected in scores on standardized tests of reading and math — across all eight schools selected for inclusion in the study sample rather than at the level of individual schools. The methodological advantages of this approach are discussed in Chapter 5.

B. Focus on Student Achievement

The present analysis focuses on reading and math achievement in the third grade because, as already mentioned, achievement in the early school years is a key predictor of subsequent educational success.[12] By necessity, this analysis is based on students' scores on the standardized tests administered in the study's Accelerated Schools. It is important to acknowledge, however, that the Accelerated Schools reform is not targeted at test scores per se but rather at a broad range of student outcomes.

As discussed in more detail later in this report, the analysis depends on the following five steps or conditions: (1) careful selection of a sample of schools that met the criteria outlined above, (2) availability of student achievement data for multiple years prior to implementation of the Accelerated Schools approach to serve as the counterfactual, (3) availability of data on students' demographic characteristics to allow changes in the composition of the student body over time to be controlled for, (4) field research to assess the extent of implementation of the Accelerated Schools reform and other education reforms, and (5) examination of whether student achievement levels broke with previous trends after the reform was launched.

C. Study Timeline

Because this report often refers to events by the years in which they occurred, it is important to establish a clear chronology. The eight years encompassed by the analysis are shown in Figure 1.1. The three years prior to the beginning of Accelerated Schools implementation are the baseline years, starting with baseline year 1. The year in which a school voted to adopt the Accelerated Schools reform is follow-up year 1, after which come follow-up years 2 through 5.

The question that the study addresses is the following: Following implementation of the Accelerated Schools approach (as the reform was implemented in the mid 1990s), did the reading and math test scores of third-graders in the study schools increase relative to the levels that would be expected given the past scores of third-graders in the schools?

In addressing this question, the present analysis focuses on the last two years of the study's five-year follow-up period because of the process-oriented nature of the Accelerated

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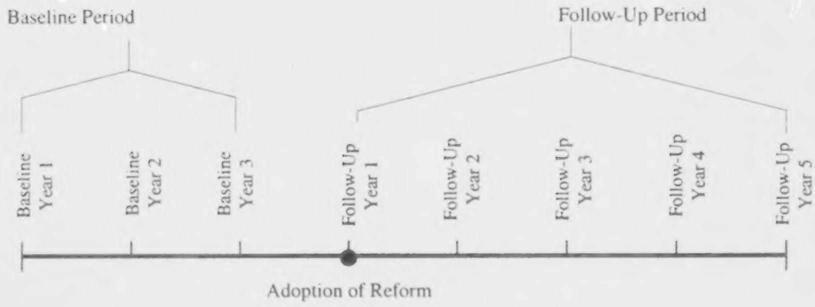
[12] Given the limited resources available for this study and the difficulty of obtaining historical data in some schools, it was not possible to obtain test scores for more than one grade.

Accelerated Schools Evaluation

Figure 1.1

Timeline



Schools reform. Another reason for focusing on these years is that, with each successive year of implementation, students who have continuously attended the study schools will have received more years of Accelerated Schools education prior to reaching the third grade. For example, whereas in the first year of implementation third-graders could not have received more than one year of an Accelerated Schools education, by the third year of implementation they could have received up to three years. Because the probability of observing impacts presumably increases with students' degree of exposure to the reform over time, the later years of implementation should be more revealing than the earlier years.

D. Student Mobility

The analysis is based on the test scores for students who took the third-grade tests in each year, whether or not these students had continuously attended the school in earlier grades or even for their entire third-grade year. Student mobility in the type of schools likely to implement the Accelerated Schools reform tends to be high, so the cohorts of third-grade test-takers in the present sample includes students who did not get a full "dose" of Accelerated Schools over their years of schooling. Chapter 5 examines the extent of student mobility and how this should affect the interpretation of impacts.

An alternative approach would have been to limit the analysis to students who stayed in the study schools from the first grade through the third grade. There are two problems with this approach. First, it is difficult to identify the appropriate comparison group for this group of students, especially if the reform makes the schools more attractive and thereby decreases student mobility. Past research suggests that students who change schools tend to have lower test scores, so it would not be appropriate to compare them with all students attending the school in prior years.[13] Second, the fact that student mobility is often high in schools that have implemented the

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[13] The same problem would arise if the design used comparison schools. Some analysts have compared the experiences of students who start a particular grade in an Accelerated School and continue to attend that school for (continued)

Accelerated Schools approach makes a focus on reform impacts for those students who get a full dose less policy-relevant. The real question facing schools is whether a reform can help the students they serve (for whatever period of time) learn more and be more successful in school and later life. It is important to note that the key research question in this context differs from that in some other evaluations of school reforms, a difference that should be borne in mind when comparing results from different evaluations.

E. Scope of the Study

This evaluation takes a first step toward understanding the effects of the Accelerated School approach on student achievement in a sample of schools that were experienced in using the model early in its development. To permit generalization of the present findings to the Accelerated Schools approach as a whole, it will be important to look at a larger and more diverse sample of schools; to include schools that began to implement the reform more recently, after aspects of the model and its implementation changed; and to refine the basic impact methodology as suggested by the present work.

F. Overview of This Report

Subsequent chapters of this report present the Accelerated Schools approach in more detail (Chapter 2), describe how schools were selected for inclusion in the study and what the student body characteristics were in the selected schools (Chapter 3), assess the educational changes produced by the adoption and implementation of the Accelerated Schools approach in the study schools (Chapter 4), and present estimates of the impacts of this reform on student achievement (Chapter 5). The final chapter (Chapter 6) summarizes the conclusions and important constraints on their interpretation.

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several years with those of students who start the same grade in a comparison school and continue in that school for several years. It is likely that the two groups will become less comparable over time, especially if student mobility is affected by the reform.

Chapter 2

The Accelerated Schools Approach to School Reform

The Accelerated Schools approach aims to transform traditional schools, where at-risk students typically receive remedial education, into schools that provide all students with enriched academic experiences — with the ultimate goal of improving the achievement of all students.[1] The Accelerated Schools approach rests on the belief that at-risk children are most likely to "catch up" to the educational mainstream when they are placed in learning environments where expectations are high and challenging materials are introduced at a fast pace.

Unlike many school reforms, the Accelerated Schools approach does not demand that schools adopt prescribed curricula or pedagogical techniques in order to provide students with these enriched academic experiences. Instead, each Accelerated School involves the whole school community in an effort to develop a plan for reform that builds on the community's unique qualities, issues, and strengths. In addition, a new governance structure is established that empowers teachers and students to participate fully in the school decision-making process and to share responsibility and accountability for the outcomes of these decisions.

The purpose of this chapter is to describe the aspects of the Accelerated Schools approach that are related to student achievement and that can be systematically documented as evidence of the reform's implementation. The approach encompasses four main areas: governance and management tools, school culture, curriculum and instruction, and technical support. This chapter will describe each area, beginning with a brief history of ASP.

I. History of ASP

Henry M. Levin, currently the William Heard Kilpatrick Professor of Economics and Education at Teachers College, Columbia University, founded the Accelerated Schools approach in 1986. In that year, two pilot Accelerated Schools (both at the elementary level) were launched in California.[2] The Accelerated Schools approach has since been adopted by more than 1,000 elementary and middle schools nationwide.[3] The model has not only grown more widespread over the years, but its components have evolved as well. Several examples are provided below.

- Originally the training provided by ASP placed heavy emphasis on using direct instruction methods to train teams of administrators, teachers, staff, and parents to implement the model at their schools. Little follow-up training or support was provided. In 1992, ASP began to use more interactive methods of training to train "coaches" instead of school staff.
- The concept of powerful learning is at the center of the Accelerated Schools approach, as reflected by the fact that the 1993 edition of the *Accelerated*

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[1] Chasin and Levin, 1995; Levin, 1987a; Levin, 1987b.

[2] *Accelerated Schools Newsletter*, Fall and Winter 1996-1997, Volume 6, Number 1.

[3] See http://www.stanford.edu/group/asp.

Schools Resource Guide[4] devoted four chapters to the subject. Nevertheless, many Accelerated Schools had difficulty employing powerful learning consistently. From 1994 to 1996, the National Center worked to flesh out the definition of powerful learning and the activities involved in putting it in place (details are provided later in this chapter).

- In the beginning, ASP's primary focus was on specifying the governance structures necessary to effect whole-school change. Powerful learning was therefore not emphasized until the intended changes in the school's governance structure had occurred. As ASP examined ways to improve the definition of powerful learning, it also strove to discover better ways to implement it. In one key change in strategy, schools were encouraged to implement powerful learning alongside the changes in governance.

This chapter will describe the current version of the Accelerated School model, although the schools included in the present evaluation were among the first to adopt the model and therefore employed earlier versions of it.

II. Governance Structure and Management Tools

Central to the Accelerated Schools approach is a shared governance structure and a set of management tools that involve administrators, teachers, students, parents, and community members taking stock of their current status and setting priorities for action. The changes in governance and management described in this section are designed to lead to and reinforce the changes in school culture discussed in the next section.

A. Governance Structure

The governance structure is the most prescribed aspect of the Accelerated Schools approach. For this approach to governance to work, a school must agree on a set of goals for the whole school community. All reform efforts should be aimed at the realization of these goals, and the school community should be actively involved in guiding the school toward this realization. Furthermore, the Accelerated Schools approach holds that reform efforts should build on the existing resources and expertise of the school community. The governance structure encompasses three bodies:

- *Cadres* are task forces or committees that focus on specific issues or areas of priority for the school, such as improvements in school facilities or instruction. These committees are responsible for assessing their priority area and developing an action plan that addresses the issues.

- The *steering committee* is a leadership team that advises the cadres and is responsible for coordinating the functions of the cadres and the meetings of the entire school.

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[4] Hopfenberg et al., 1993. Unless otherwise noted, the information about the Accelerated Schools approach presented in this chapter is drawn from this source.

- The *school-as-a-whole* (SAW) is a group that consists of the entire school body: students, faculty, staff, parents, and community representatives.

Ideas about how to change the school flow from the cadres through the steering committee to the SAW. Specifically, the cadres develop action plans that are reviewed by the steering committee. If an action plan passes this review, cadres present their plans to the entire school body at an SAW meeting. Final approval of the action plan is reached through consensus at the SAW meeting.

B. Management Tools

The Accelerated Schools approach provides schools with tools for implementing and maintaining the model. The management tools are introduced during the school's first year of implementation in the following five stages:[5]

1. *Taking stock.* Taking stock is used to build the school's reform agenda. In this stage, the school community comes together to assess its needs and to identify its resources. Results of the taking-stock process are compiled in a report.

2. *Development of a collective school vision.* In this stage, the school community collectively decides where it wants the school to go and defines a vision for the school. Involving all members of the school community fosters a feeling of ownership that in turn is more likely to result in action.

3. *Identifying priority or challenge areas.* Given the school's current status and the school's vision of where it wants to be, the community then identifies its three to five greatest challenges. Prioritization is essential but also potentially difficult, because schools may face numerous challenges.

4. *Implementing the Accelerated Schools governance structure.* The next step is to implement the governance structure. Here the goal is to set up the cadres to focus on the priority areas identified in the preceding stage and to establish a steering committee to oversee and coordinate the cadres' efforts.

5. *Inquiry process.* In the last stage, the school community begins to tackle the challenges using a highly prescribed problem-solving process. Although all governance groups, grade levels, departments, and individuals in an Accelerated School use the inquiry process to guide all decision-making and communication in the school, this section will illustrate the inquiry process using a single case study from the *Accelerated Schools Resource Guide*, a manual that expounds the Accelerated Schools philosophy. The inquiry process consists of five steps:

    - *Assess the problem.* Each cadre focuses on a challenge area identified in the taking-stock phase. In one school in the present study, a cadre called the Family Involvement Cadre was established to concentrate on boosting family involvement in the school. Cadre members are encouraged to state informal hypotheses or assumptions concerning why a particular problem exists. The Family Involvement Cadre, for example, hypothesized that language barriers and lack of trust prevented families from getting involved. Cadres then test these assumptions to see if they are accurate explanations. To find out if issues of language and trust were responsible for low family involvement, the Family Involvement Cadre hosted focus groups in which a diverse set of families were asked to express their views and feelings about the school. By assessing the problem, cadres try to develop a clear understanding of the challenge areas.

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[5] Hopfenberg et al., 1993.

- *Brainstorm solutions.* Cadres generate possible solutions to problems by brainstorming, looking both inside and outside the school for ideas. The Family Involvement Cadre talked to other schools, conducted literature searches, and considered ideas generated in the focus groups.
- *Synthesize solutions and develop an action plan.* The cadres then check to make sure that the solutions fit the needs of their school and are feasible given the school's strengths and resources. Each cadre decides who will do what tasks by what dates and how the tasks will be performed. The Family Involvement Cadre decided to create a family room and a family newsletter and made plans for obtaining resources and staff for these initiatives.
- *Pilot-test or implement the action plan.* After securing approval for the action plan from the steering committee and the SAW, cadres work with the steering committee to set a timeline and allocate responsibility for implementation, documentation, and assessment of the action plan. An open house held by the Family Involvement Cadre was poorly attended, prompting the cadre to consider how to inform more parents about the room; the newsletter, in contrast, was an instant success and served to get more parents involved in the school.
- *Evaluate and reassess.* In this last phase, cadres use data gathered during the pilot test or early phase of implementation to judge the success of the action plan in addressing the initial problem. This step could lead to full-scale implementation, revision, or abandonment of the action plan. The Family Involvement Cadre revised its strategies for getting parents to use the family room and decided to implement the newsletter with regular features and a regular distribution schedule.

III. School Culture

School culture is defined by, among other things, how comfortable students and parents feel at school, how students behave, whether teachers feel free to try ideas, and whether all cultures are validated. The Accelerated Schools approach is relatively prescriptive with respect to what a school culture should include. The model outlines three central principles and nine values designed to drive cultural change in Accelerated Schools. Acting on these principles via the governance structure described in the previous section is intended to enable a school to respond to its community's specific issues and needs, make the school community's efforts toward change more cohesive, and ensure that the change is sustainable. The three principles are:

1. *Unity of purpose:* the striving of the entire school community toward a common set of goals and expectations for the school
2. *Empowerment coupled with responsibility:* the ability of the school community to share responsibility for decision-making, implementation of change, and outcomes
3. *Building on strengths:* using all available resources, including students, parents, district and school staff, and community members

The following nine interrelated and interdependent values guide actions and interactions in the school community and are intended to ensure that the school culture fosters growth, creativity, and enrichment. The nine values are:

1. *Equity.* All students in the school have an equal right to an enriched education.
2. *Participation.* All members of the school community — including students, teachers, parents, administrators, and support staff — participate in the school.
3. *Communication and collaboration.* The school community works toward common goals through active communication.
4. *Community spirit.* Members of the school community are connected to one another, and achievements are celebrated as community accomplishments.
5. *Reflection.* Time must be set aside for reflection, research, and sharing ideas.
6. *Experimentation.* The school community fosters a spirit of experimentation and discovery among its members.
7. *Trust.* All members of the school community must believe in and support each other.
8. *Risk-taking.* The school community encourages its members to be entrepreneurial and expects that some programs will succeed and others will fail.
9. *School as center of expertise.* The school is the center of the community, and its members are the experts who know how to respond to challenges and create the best learning environment for students.

IV. Curriculum and Instruction

The Accelerated Schools approach provides a framework for instruction known as powerful learning. Powerful learning is based on a constructivist approach in which students acquire or construct new understanding through concrete experience, collaborative discourse, and reflection.[6] In constructivist learning, students develop the skills to organize, synthesize, interpret, explain, and evaluate information as a means of building new knowledge based on their prior experiences.

The Accelerated Schools approach defines powerful learning experiences as those in which students perceive meaning and relevance in their work and are motivated to learn. Traditionally, this type of curriculum and instruction has been offered only to children thought to be gifted or talented. While powerful learning can take place in a variety of settings — such as in the classroom, at home, or on the playground — the Accelerated Schools model requires that it be part of every classroom experience rather than a departure from the regular curriculum. The components of powerful learning experiences are as follows:

- *Authentic:* relevant to students' lives
- *Interactive:* based on the use of exploratory techniques
- *Learner-centered:* focused on students' needs
- *Inclusive:* sensitive to different learning styles and cultural backgrounds
- *Continuous:* built on prior knowledge

The following is an example of powerful learning. One Accelerated Schools classroom had a diabetic student. Students in the class were curious about diabetes, and the teacher responded to their curiosity by asking them what they wanted to learn and calling on specialists from the school and the community to discuss their questions. Prompted by additional questions, the students also studied a skeleton, visited a blood laboratory at a local hospital, studied the Latin roots of medical terms, and learned how to read blood test results. This learning experience was authentic because students generated the questions. It employed interactive techniques during the visit to the hospital. The lesson was learner-centered in that it was guided by student questions and inclusive in that it involved all students and used a variety of teaching methods. Finally, the lesson was continuous because students continued to learn as new questions arose.

V. Technical Support

Becoming an Accelerated School is a challenging and time-consuming endeavor, but schools are supported in their efforts to launch and sustain the Accelerated Schools model.[7] A "coach" guides the school community through the initial phase of the reform, remaining with the school to provide ongoing support. The coach, in turn, is trained and supported by a regional ASP Satellite Center and the ASP National Center.[8] The functions of these three sources of support are outlined in detail below:

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[6] This definition and the following components and example of powerful learning are based on the *Accelerated Schools Newsletter,* Fall and Winter 1996-1997, Volume 6, Number 1.

[7] This and the following paragraph about the coaching component are based on Finnan et al. (1995).

[8] Since the reform was launched in the eight schools in the present study, the amount of training and technical assistance provided to Accelerated Schools has increased.

Accelerated Schools coach. Coaches work with schools to guide them through the process and to prepare them to sustain the momentum of transformation. Coaches come from a variety of settings, including school districts, universities, and state agencies.[9] Shortly after the school launches the reform, coaches work with the school approximately one day per week, but these visits typically become less regular as the school becomes accustomed to implementing Accelerated Schools processes and values. Coaches also participate in retreats and networking events where they can share their knowledge and help schools address new challenges.

National Center for the Accelerated Schools approach. The National Center, located at the Neag School of Education at the University of Connecticut,[10] directs all nation-wide Accelerated Schools activity — training coaches, supporting Satellite Centers, performing research, and disseminating information about the approach.

Satellite Centers. Satellite Centers are regional offices that organize local networks of Accelerated Schools and are increasingly responsible for providing support and training services to build local capacity for implementing the reform. Owing to the rapid spread of the approach and the National Center's belief that a regional office is better suited to maintaining contact with local coaches and schools, in recent years the National Center has relied increasingly on the Satellite Centers.[11]

VI. Implications for This Evaluation

The purpose of this evaluation was to estimate the impact of the Accelerated Schools approach on student achievement. The model described in this chapter might affect student achievement in any of several ways — indirectly by transforming the school community into a dynamic learning environment or more directly by boosting test scores through implementation of powerful learning practices. Through high expectations and the rapid introduction of challenging material, powerful learning is intended to speed up the pace of learning for all children. The other components of the Accelerated Schools model described in this chapter are designed to support and facilitate the powerful learning environment by strengthening the focus on student learning and raising expectations about what students can accomplish.

The governance structure and management tools are designed to ensure that the changes in school culture and instruction will be long-lasting. The governance structure allows the school community to "own" the reform and thereby to take responsibility for its decisions. The management tools and decision processes promote collaboration within the school community, allow the school to search widely for scarce resources, and promote flexibility in tackling the unique challenges faced by the school. The changes in school culture are intended to create an environment where discipline problems decrease and attention can therefore be focused on learning. Finally, the technical support is aimed at facilitating changes in long-held beliefs about education, modifying long-standing school practices, and ensuring that these modifications take hold.

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[9] Coaches do not come from the school itself.

[10] The National Center was located at Stanford University until early 2000.

[11] *Accelerated Schools Newsletter,* Fall and Winter 1996-1997, Volume 6, Number 1.

Chapter 3

Site Selection

The goal of site selection in this evaluation of Accelerated Schools was to find schools that had satisfactorily implemented the Accelerated Schools approach at the elementary level, met the requirements of the research design, and served students in the population targeted by the model. Each of these requirements is briefly summarized in this introductory section.

The schools in the sample were not selected for being ideal or representative examples of the full set of schools that have adopted the model since its inception in 1986. Instead, as explained in Chapter 1, they were selected for having been mature Accelerated Schools in the early 1990s — that is, for having been experienced at implementing those of the model's components that were emphasized early in the reform's evolution, including those affecting governance, decision-making, and school culture.[1]

In addition to having implemented the model, the candidate schools had to satisfy the requirements of the research design. These requirements included serving the appropriate grades, having a sufficiently large number of third-grade students, and having data available on students who attended the third grade in previous years. Moreover, for changes in test scores to be directly attributable to the Accelerated Schools approach, the schools had to have been fairly stable over the study period. That is, the demographic composition of the student body had to have been fairly constant, and the school and district had to be free of major disruptions (such as a change in superintendent), both factors that could have affected student achievement and thus obscured the model's effects.

The retrospective nature of the research design allowed for the selection of schools for inclusion in the study after the reform had been in place for four to five years. This procedure reduced the evaluation's vulnerability to unexpected changes within the school or district that might obscure the reform's effects, because schools in which such changes had occurred could be excluded from the sample. Nevertheless, schools are dynamic, and some degree of change from year to year is natural and expected. The instability due to year-to-year variability in student characteristics such as ethnic composition was accommodated in the estimation of the model's impacts on achievement.

It is believed, especially with regard to schools that adopted the reform early in its development, that the effects of the Accelerated Schools reform on achievement might not be observed until three to five years after its launch. After three to five years of implementation — having already modified school culture, governance, and decision-making as prescribed by the model — schools are expected to have acclimated to the reform, thus enabling them to turn their attention to improving curriculum and instruction. Therefore, at the beginning of the study the sample schools had to be able to supply the researchers with historical standardized test data for 10 school years: the five years before launch and the five years after launch. After site selection took place, it was decided that only three years of historical test data prior to the launch of the reform would be used (hence the three-year baseline period; for a thorough discussion of the research design and analysis, see Chapter 5).

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[1] The model was first pilot-tested in two schools in the 1986-1987 school year. By the fall of 1990, there were about 54 Accelerated Schools nationwide (Hopfenberg et al., 1993).

Finally, the schools in the study had to serve students in the population targeted by the Accelerated Schools model, that is, students at risk of educational failure. In its *Resource Guide*,[2] ASP defines at-risk students as "those who are unlikely to succeed in schools as schools are currently constituted because they bring a different set of skills, resources, and experiences than those on which school success is traditionally based" (p. 9). The guide goes on to note that "children in at-risk situations are disproportionately concentrated among families that are in poverty, families headed by single parents, non-English speaking families, minority families, and migrant families" (p. 10).

The remainder of the chapter describes first the strategy used to find candidate schools for the evaluation and then the process used to select schools for the final sample. (To protect the schools' anonymity, they are arbitrarily referred to as school A, school B, school C, and so on in this report.) The chapter closes with a characterization of the sample schools and the third-grade students in those schools.

I. Selection Process

Site selection took place in two stages, as illustrated in Figure 3.1. In the nomination stage, ASP staff identified elementary schools that had launched Accelerated Schools within the appropriate time frame.[3] Nominations were necessary because no standardized documentation that might have allowed the researchers to identify Accelerated Schools independently was available. In the filtering stage, the researchers eliminated nominees that did not meet the implementation and historical data requirements or did not serve the target population. Service to the target population was determined based on the following factors associated with school failure: receipt of Title I benefit (which provides discretionary funds to schools to help them serve disadvantaged students), having a high percentage of students who are eligible for a free or reduced-price lunch benefit, and having a high percentage of minority students. The nomination and filtering stages were conducted without knowledge of schools' test scores.

A. The Nomination Stage

Staff at ASP's National Center and at the Satellite Centers were asked to identify schools that would be appropriate for the evaluation. To this end, the National Center developed guidelines to screen potential schools for maturity, that is, degree of experience in using the model. To qualify as a mature Accelerated School, a school had to have implemented most of the following components of the reform:[4]

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[2] Hopfenberg et al., 1993.

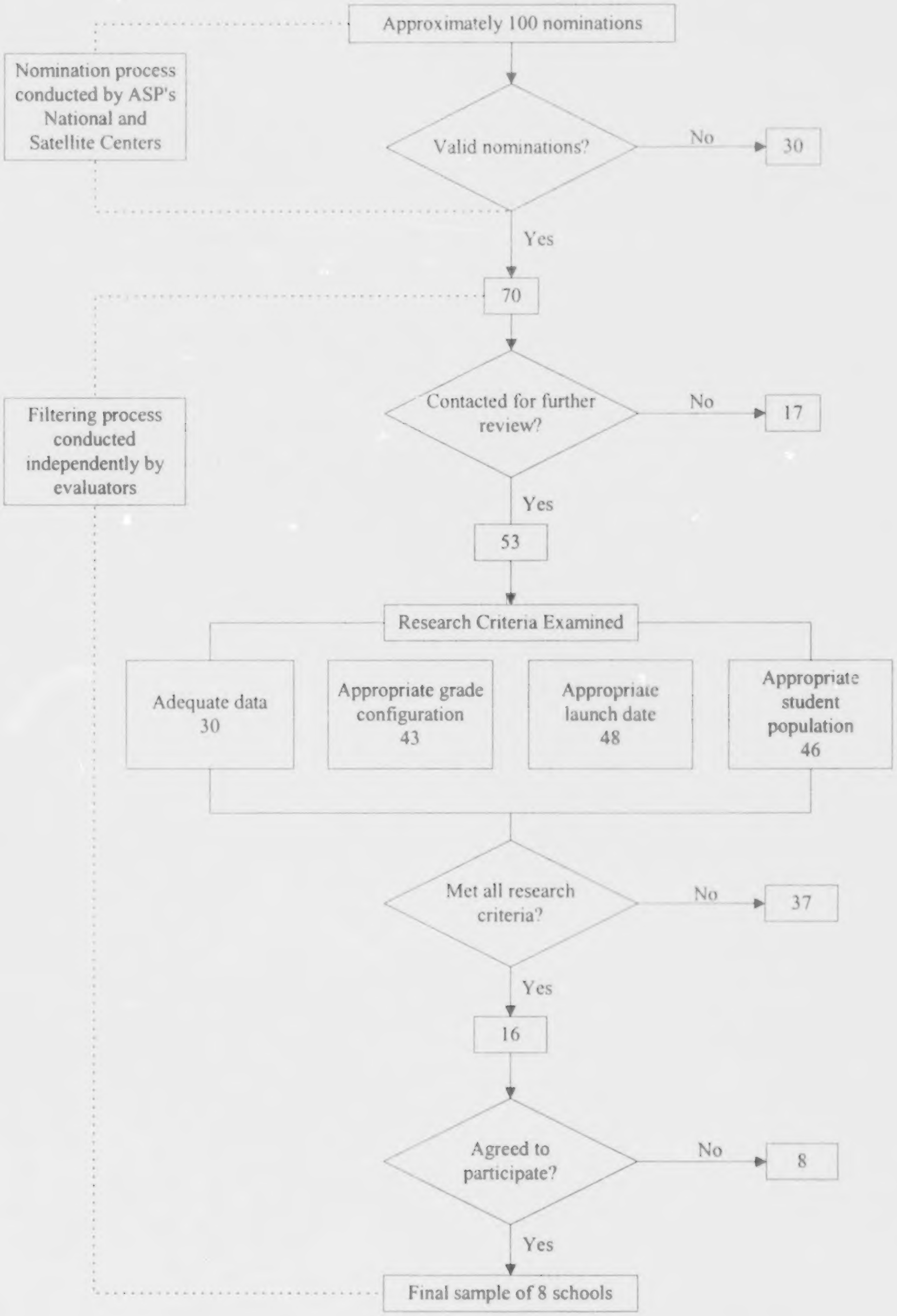
[3] Initially, schools had to have launched the reform by the 1993-1994 school year. As sample selection progressed, the period during which launch had to have occurred was lengthened to include 1994-1995. At that point, nominees that had launched in 1994-1995 then entered the filtering stage.

[4] The bracketed information, which was not part of the guidelines used to confirm nominees' eligibility, is intended to clarify the components for readers. The rest of the list is quoted verbatim from the National Center's guidelines.

Accelerated Schools Evaluation

Figure 3.1

Sample Selection Process


Approximately 100 nominations
Nomination process conducted by ASP's National and Satellite Centers
Valid nominations?
No
30
Yes
70
Contacted for further review?
No
17
Filtering process conducted independently by evaluators
Yes
53
Research Criteria Examined
Adequate data 30
Appropriate grade configuration 43
Appropriate launch date 48
Appropriate student population 46
Met all research criteria?
No
37
Yes
16
Agreed to participate?
No
8
Yes
Final sample of 8 schools

- *Priority setting.* The school sets priorities based on taking stock [of the school's strengths and weaknesses] and a shared vision.

- *Governance.* Governance structures (the cadres, the steering committee, and SAW meetings) are in place and functioning using inquiry, meeting on a consistent basis, and using the SAW as a decision-making body and the vision as a decision-making filter. A minimum of one cadre has completed a full cycle of inquiry [the process by which school staff examine problems and brainstorm solutions].

- *Integration of the Three Accelerated Schools Principles and Nine Values.* The school's culture and climate have changed in ways that encourage participation, risk-taking, experimentation, reflection, and collaboration among and between faculty, staff, student,-parents, and/or the community. The school culture is one that emphasizes equity.

- *Powerful learning.* The school has created powerful learning experiences to accelerate the progress of all children.

- *Coaching.* An on-site or off-site coach has regularly visited the site to guide implementation of the model.

- The school is implementing powerful learning.

- Classroom practices have changed in alignment with the philosophy of the powerful learning framework, moving the school towards its vision.

The nomination stage was iterative: As nominees were filtered out of the pool of potential candidates, additional nominations of eligible schools were sought. About 100 schools were nominated in all. They represented the majority of schools that had become associated with the project within the appropriate time frame for inclusion in the study. However, the nominators determined that some of the schools that they had nominated were not eligible for participation in the evaluation. For example, some were not official ASP schools because they had not.participated in training or had not remained in contact with ASP staff after training. Others were not yet mature according to the guidelines listed above. These schools were eliminated, leaving approximately 70 eligible nominees to enter the filtering stage.

B. The Filtering Stage

The filtering stage was carried out by the researchers independently of ASP to determine which nominees would be included in the final sample. In this stage, the researchers determined whether the eligible nominees met implementation requirements,[5] served the reform's target population, and met the following research requirements:

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[5] As discussed in Chapter 4, field research subsequently revealed widespread confusion about and uneven implementation of powerful learning. During the site selection process, however, a school was considered to have implemented this component as long as the contact person reported that powerful learning was occurring for all students. In a departure from the National Center's guidelines, use of a "coach" was not considered in the filtering (continued)

- *Data.* To ensure that any observed changes in achievement were not due to changes in the types of tests or scoring used over time, the schools had to be able to provide standardized test data that were comparable across all eight years of the study period.

- *Launch date.* The schools had to have launched the reform in or prior to the 1994-1995 school year.

- *Grade size.* For the impact analysis to be able to detect effects on the test score measures used, the schools had to serve a minimum of 20 third-grade students in each year of the study period.

- *Grades served.* The schools had to be elementary schools that served at least the first, second, and third grades to ensure a reasonable degree of confidence that most students received consistent, substantial exposure to the reform, although some of them (in particular, students who transferred to the school from a non-Accelerated School) received less exposure.

- *Stability.* The school environment and the characteristics of the student population had to be stable over the study period to help rule out alternative explanations for any changes in achievement observed after implementation of the reform.

- *Magnet schools.* The schools could not have a magnet program in place that affected the third grade or earlier grades.

All 70 schools that advanced to the filtering stage met the applicable implementation and research guidelines. The data requirement was the most difficult to meet: Only somewhat more than half of the 53 schools contacted for further review could provide the necessary historical data. (Seventeen schools, most of them in districts or states in which many mature schools had been already selected for the sample, were not contacted for further review.) Other reasons for elimination at this stage included not serving students in the first three elementary grades, having launched the reform after the 1994-1995 school year, and serving too few students at risk of educational failure. The selection process yielded a final sample of eight schools.

II. Schools in the Sample

The eight schools in the evaluation were located in diverse settings across the nation, ranging from the bustling metropolises of New York City and St. Louis, Missouri, to the midsized city of Charleston, South Carolina, to a small Missouri town composed of about 10 streets. With the exceptions discussed below, all the schools met the implementation and research design requirements already outlined.

All but one school (school B) had at least three years' experience in using the Accelerated Schools model prior to being selected for the sample. It was discovered through the field research

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stage because the necessity of receiving ongoing technical assistance was not emphasized early in the reform's development.

conducted after sample selection was complete that the staff at school B did not "buy in" to and truly participate in the reform until the last year of the follow-up period (follow-up year 5). At that school, the model was imposed on the staff over the summer break through an autocratic decision on part of the principal, who was not well respected. On returning to school in the fall, teachers were informed of the decision and trained in how to implement the model, but there was general dissatisfaction with and misunderstanding of the approach. With the arrival of a new principal in follow-up year 5 came a turn in the tide. Staff support and buy-in grew as teachers' and schools' needs were identified and addressed. Another school's (school C's) introduction to the model was also not altogether voluntary. Specific information on whether this affected buy-in was not available, but it should be kept in mind that this school's implementation of the reform may have been adversely affected and the reform's impacts on student achievement therefore weakened.

The environment at one school (school E) and the student population at several schools were found to be somewhat unstable. At school E, adoption of the Accelerated Schools model coincided with the appointment of a new principal. Though reform-minded, the principal did not impose the model on the staff; instead, it came as a suggestion from the district. The decision to implement was put to a vote, and 100 percent of the faculty agreed. Given the unanimous buy-in and active participation on the part of the staff, it can be argued that potential changes in achievement are attributable to the Accelerated Schools approach, and it was therefore included in the sample. At the other schools, there was a shift in ethnic composition of the student population during the study period (for details, see the next section).

One school (school C) provided data for the baseline period and the first four years of the follow-up period but did not submit data for follow-up year 5 in time for the school's data from follow-up year 5 to be included in the impact analysis.

III. Characteristics of the Students

This section examines how closely the student bodies at the schools in the final sample reflect ASP's target population, that is, students at risk of school failure. Test data and demographic data are both good indicators of risk. Although test data are used below to describe the sample schools' average level of achievement prior to implementation of the Accelerated Schools model, they played no role in the site selection process.[6] Moreover, because the quantitative demographic data presented here were not available when sites were selected, student characteristics were measured solely on the basis of staff reports for the purposes of site selection.

A. Baseline Achievement as Indicator of Risk

A useful way to get a broad, objective sense of a school's level of achievement in the baseline period is to look at the performance of its students relative to that of other students in their state or in the country. Table 3.1 shows the average percentile scores in reading and math of students

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[6] Selecting schools on the basis of the outcome of interest (test scores) could have biased the study's impact findings.

Table 3.1

The Percentile Equivalent of Each School's Mean Baseline Score Relative to Its State or National Reference Group

School	Reading	Math
A	21	36
B	54	53
C	35	39
D	56	63
E	43	45
F	24	43
G	26	31
H	43	49
Average[a]	37	46

SOURCE: MDRC calculations using student test scores and demographic data provided by each school.

NOTES: The sample includes all third-grade students tested during the study period at each school.

[a] The percentile rank for the average school was obtained by (1) converting the percentile score for the average student at each school to a Normal Curve Equivalent (NCE), (2) computing the mean NCE for all schools, and (3) converting the mean NCE back to percentiles. This process thus uses the cardinal properties of NCEs for computing means and the ordinal properties of percentiles for reporting findings.

in each of the study schools in the three-year baseline period relative to the scores of the state or national reference group against which the tests were scored. The bottom row of the table shows that, across the eight schools, students with reading and math scores that were close to the sample average scored somewhat below their state or national counterparts. In reading, the average student in the baseline sample scored at the 37th percentile relative to the state or national reference group, with a range from the 21st percentile to the 56th percentile across schools. In math, the average student in the baseline sample scored at the 44th percentile relative to the state or national reference group, with scores ranging from the 31st percentile to the 63rd percentile across schools.

These comparisons indicate that overall the students in the study sample were at risk of educational failure: Seven of the schools had an average score below the 50th percentile in their state or nationally in at least one of the two subjects, and six of them had average scores below the 50th percentile in both subjects. However, there was variation among schools. Students in two of the schools (schools B and D) had average scores that fell above the 50th percentile with respect to the reference group in at least one subject.

B. Demographic Indicators of Baseline Risk

Demographic data indicative of students' risk of educational failure include their eligibility for a free or reduced-price lunch benefit, which is used as a proxy for economic disadvantage; and racial or ethnic minority status, which has been linked to school performance. According to these indicators, about two-thirds of the students in the baseline sample were at risk (see the first two columns of Table 3.2). Overall, about 64 percent of students in the five schools that provided lunch benefit eligibility data for the baseline period were eligible for a free or reduced-price lunch benefit. In three of these schools, a majority of students were eligible. In addition, about 66 percent of students enrolled in the sample schools at baseline were nonwhite. In five of the eight schools, a majority of the students were nonwhite, and in four of them more than 97 percent of students were nonwhite.

School H, for which data on lunch benefit eligibility from the baseline period were not available, served a relatively low percentage of at-risk students at baseline judging from the race/ethnicity data it provided. However, about 62 percent of students in this school were eligible for a free or reduced-price lunch benefit at the time of the implementation study, which was conducted after the follow-up period. At the same point, 49 percent of students in school H qualified for English as a Second Language (ESL) services, another risk indicator.

According to the available quantitative data, school B seems to have had only a small percentage of at-risk students in the baseline period. Other indicators, however, suggest that school B served a considerable number of at-risk students. According to 1990 census data, which were collected approximately two years before this school launched the reform, out of the roughly 8,000 people living in the vicinity of the small town in which the school was located (which had no other elementary schools), more than 1,000 were classified as living below the poverty level. Moreover, about one-third of people aged 25 or older living in the vicinity of the town had not earned a high school diploma or its equivalent, and more than 20 percent had less than a ninth-grade education. Finally, the principal of school H reported that some children enrolled in the school lived in severe poverty, residing in trailers or shacks without electricity.

Table 3.2

Average Demographic Characteristics Prior to and Following Implementation of the Accelerated Schools Model, by School

School	Study Period	Percentage with Lunch Benefit	Percentage Nonwhite	Percentage Overage for Grade	Percentage Female	Percentage Tested
A	Baseline	55.6	99.3	1.4	47.2	89.9
	Follow-up	80.0	98.6	0.5	55.7	81.7
B	Baseline	37.0[a]	0.7	9.8[a]	50.3	91.3
	Follow-up	33.8	0.6	6.5	50.3	92.0
C	Baseline	97.6	97.6	25.5	49.7	84.2
	Follow-up	98.9	97.7	17.6	46.6	68.5
D	Baseline	36.5	47.8	N/A	50.7	100.0
	Follow-up	49.7	60.4	N/A	47.7	98.5
E	Baseline	N/A	97.4	21.7	52.2	79.0
	Follow-up	N/A	97.8	6.4	47.1	83.3
F	Baseline	N/A	99.0	3.7	50.9	94.6
	Follow-up	38.0	99.8	2.8	47.3	87.8
G	Baseline	92.9	55.8	12.4	52.2	73.9
	Follow-up	83.2	73.0	15.2	51.0	69.8
H	Baseline	N/A	27.2	N/A	48.6	99.4
	Follow-up	N/A	40.6	3.5[a]	44.7	99.4
Average						
	Baseline	70.7	65.6	12.4	50.2	89.0
	Follow-up	63.9	71.1	7.5	48.8	85.9

SOURCE: MDRC calculations using student test scores and demographic data provided by each school.

NOTES: The sample includes all third-grade students tested during the study period at each school.

[a] More than 25 percent of the data are missing; this number should be interpreted with caution.

C. Demographic Shifts over the Study Period

To determine whether adjustment for demographic changes would be necessary in the impact analysis and whether changes in test scores were just an artifact of a changing student population, the stability of student characteristics was also examined. The population of students enrolled in a school may change over time for a variety of reasons. For instance, the residents in the school's catchment area (the area it serves) may change, or another school in the neighborhood may open or close. General demographic data on the eight schools in the study sample and the percentage of students tested in the baseline and follow-up periods are presented in the last three columns of Table 3.2 (for the same data broken down by year and school, see Appendix A).

The proportion of students who were eligible for a free or reduced-price lunch benefit in the study schools as a group rose somewhat from baseline to follow-up (from 64 percent to 71 percent). In schools A and D, there were larger increases over the study period in the percentage of students who were eligible for a free or reduced-price lunch benefit.

Overall, there was a slight increase from baseline to follow-up in the percentage of nonwhite students (from 66 percent to 71 percent). Five schools remained homogenous with respect to race/ethnicity over the whole study period. In the other three schools, there was an increase in the percentage of nonwhite students and a corresponding decrease in the percentage of white students over the study period. In school G, the decrease was sharp following enactment of a local law requiring integration, which resulted in the busing of black students to the school. Over the study period, the student population in school G shifted from being predominately white to predominately black. In school F, the percentage of black students increased while the percentage of Hispanic students decreased.

Another measure of the stability of student characteristics is the percentage of students over the study period who were overage for their grade. The average age of the students in the sample (all of whom were third-graders), computed relative to a test date of April 15, was about 9 years in each school year.[7] For the analysis, students aged 10 years or older are considered overage for the third grade.[8] Though the average age in the study schools remained essentially the same from baseline to follow-up, the percentage of overage students decreased somewhat (from 12 percent to 7 percent).

In each school and each year of the study period, about half of the students in the sample were female. The only exception was school A, where there was an increase in the percentage of girls from baseline to follow-up.

Only students for whom test data were available are included in the impact analyses presented in Chapter 5. A particular student's test data might have been missing for a variety of reasons, for instance, because the student transferred out of the school prior to testing or was excluded from testing owing to a language barrier. To determine what percentage of students in the study sample were tested, the number of students for whom test data were available in each study year was compared with a roster of all students enrolled in the third grade in that year.[9] The overall percentage of students tested during the baseline period was fairly similar to that tested during the follow-up period: 89 percent and 86 percent, respectively. This percentage was also similar from school to school, with the notable exceptions of schools A, C, and F.

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[7] All the schools administered tests in the spring semester of each year in the study period.

[8] Age data for the four students in the sample who were recorded as being under 7 years old or 10 years or older were coded as missing owing to the questionable reliability of these data.

At school A, the percentage of third-graders who were tested declined in the last year of the baseline period, decreasing from an average of 94 percent in baseline years 1 and 2 to an average of 82 percent in baseline year 3 because some special-education students were excluded from testing beginning in baseline year 3. Had these students been tested, the percentages of students tested in the baseline and follow-up periods would have been comparable. At school C, the percentage of third-graders tested decreased from 84 percent at baseline to 69 percent at follow-up. A contact from the school suggested that the difference there might have been the result of an increase in the percentage of special-education students excluded from testing (as it was at school A). However, this hypothesis could not be investigated because special-education data were not available for this school.

At school F, the percentage of students tested decreased from 95 percent at baseline to 88 percent at follow-up because of a marked drop in the percentage of students tested in follow-up year 5 (to 75 percent). In follow-up year 5, a larger percentage of non-English-speaking students were exempted from testing than had been in earlier years, which may have increased the average test score in that year relative to those in earlier years. However, data for follow-up year 5 also included students who attended another school housed at the same location who were not exposed to the Accelerated Schools approach. Including these students, who were considered to have behavior problems, may have concomitantly decreased the school's average test score in follow-up year 5.

Based on an analysis of the size and composition of the student sample over the study period, it was concluded that changes in these variables could not account for any observed impacts of the reform.[10] Though the minor demographic shifts revealed by this analysis were controlled for in the estimation of impacts of the Accelerated Schools model on test scores, the impacts aggregated across the study schools are essentially the same whether they are adjusted for demographic changes or not (for adjusted impacts, see Table 5.3; for the corresponding unadjusted impacts, see Appendix A).

IV. Summary

The sample of eight schools examined in the present study of Accelerated Schools meets the requirements necessary to allow inferences about the effectiveness of the Accelerated Schools model in improving student achievement. The schools were chosen through an impartial process from a group of candidates identified as Accelerated Schools. Overall, the implementation of the reform in the schools in the final sample was typical of that in all schools that launched the reform early in its evolution; that is, these schools employed the components of the model, particularly those related to governance and decision-making, that were emphasized at the time.

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[9] A complete roster was not available for school C in baseline year 2 or for School E in follow-up year 1. As a result, data for these schools in these years are not reflected in the average percentage of students tested.

[10] See Bloom, 2001.

Most of the students served by the study schools were at risk of school failure and therefore in the population targeted by the reform. On average, these students scored below their state or national counterparts on standardized math and reading tests. Throughout the study period, two-thirds of them were at risk based on available demographic indicators. In the case of schools that could not be classified in this way for lack of the necessary data, other data — including staff reports, census data, and ESL data — suggest that these schools also had a substantial proportion of at-risk students.

With minor deviations, all the study schools met the requirements of the research design. The schools were able to provide a sufficient amount of historical data for the impact analysis to be able to detect any change in students' average math or reading test scores, and the environments and third-grade student populations were sufficiently stable over the study period for any observed changes in test scores to be attributable to the Accelerated Schools model.

Chapter 4

Implementation of the Accelerated Schools Reform in the Study Schools

An important component of the present evaluation of the Accelerated Schools model was the implementation study that was conducted to document the model's implementation in the eight sample schools. This chapter describes the methodology used in the implementation study and presents the study's findings (for the protocols used to collect the qualitative data presented in this chapter, see Appendix B).

The primary goal of the chapter is to describe how elements of the Accelerated Schools approach were implemented in the schools' routine practice. To that end, illustrative examples of the approach in action as reported by staff are presented. The chapter also highlights implementation trends observed across the sample schools that may help explain the impacts presented in Chapter 5. Lastly, the chapter presents information verifying that the sample schools met the maturity criteria (with respect to implementation of the Accelerated Schools approach) defined by staff at ASP's National Center.[1]

I. Methodology of the Implementation Study

The implementation study was conducted during the 1998-1999 academic year to obtain a "snapshot" view of the sample schools with respect to governance and decision-making, school culture, and curriculum and instruction.[2] The study also included an examination of the types of technical assistance that schools received in implementing the Accelerated Schools approach.

Case study profiles covering the study's four focus areas (governance and decision-making, school culture, curriculum and instruction, and technical assistance) were compiled for each school during a two-day site visit. Each visit included (1) interviews with school administrators, lead staff for curriculum planning, and the Accelerated Schools coach (where available); (2) focus groups with teachers and other members of the school community who were actively involved in school decision-making processes; (3) observations of third-grade classrooms; and (4) document review.[3]

Using the case study profiles, a content analysis approach was then used to create text-based data tables, which served as tools to examine trends in implementation of the Accelerated Schools approach. The data required for the analysis focused on school operations and school conditions (in the four focus areas) that

- were being implemented or existed school-wide within grade levels (with special attention to primary grades);

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[1] For detailed information on the criteria used to assess the schools' implementation maturity, see Chapter 3.

[2] Six schools were visited during the 1998-1999 school year; two schools were visited during the 1999-2000 school year.

[3] The documents reviewed typically included (where available) the school's vision statement, taking-stock reports, school improvement plans, and cadre membership lists and recent minutes.

- precise and readily recognizable representations of the philosophy and prescribed processes of the Accelerated Schools approach; and
- were documented in multiple sites, providing a standard data set from which comparisons and trends within the study sample could be drawn.

Table 4.1 provides an overview of the four areas of school functioning that were targeted for examination in this study, along with the processes or model components associated with each one.[4] The table also presents the focus of the goals and the focus of documentation in each area.

II. School Governance and Decision-Making

In examining school governance and decision-making processes, the analysis focused on three things: (1) schools' implementation of the Accelerated Schools governance structures, (2) schools' usage of the Accelerated Schools processes of taking stock and inquiry, and (3) school staff perceptions of how the Accelerated Schools approach decision-making processes influenced the achievement of improvement goals. As described below through staff comments and illustrative examples, implementation of the Accelerated Schools governance structure was well integrated into the routine practice of school life, affecting how the sample schools' improvement priorities are now identified and addressed. This is an important finding because such institutionalization was consistent with meeting the maturity criteria for implementation of ASP governance.

The examples presented below are also important because they provide evidence that the ideas generated through ASP governance structures have shaped school-wide operations in a number of ways. Trends in this regard indicate that during the initial years of implementing the Accelerated Schools approach, school staff focused on climate issues such as student discipline, school facilities, and parental involvement. In the later years of implementation (that is, in follow-up year 4 and beyond), staff decisions that were stimulated through the use of ASP governance structures tended to focus on curriculum and instruction. Implications of this trend are examined in Chapter 5, which presents impact findings from the evaluation.

This chapter does not identify any school by name, in order to protect the confidentiality of individual informants whose comments might link them to a specific school. Further, the findings do not indicate a systematic pattern of stronger implementation at some schools than at others; the sample schools varied in their areas of strength. The main pattern across the schools is the initial focus on school governance and culture, followed by growing attention to issues of curriculum and instruction.

- **The Accelerated Schools approach decision-making structures were central to governance operations in the sample schools.**

Staff reported and provided documentation to demonstrate that a decision-making process was in place and that it reflected the Accelerated Schools governance process and structures. In

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[4] Definitions used for the areas of school functioning were generated by the evaluation team based on a review of school reform literature and are not specific to the Accelerated Schools approach. These definitions are intended to characterize how these areas of school functioning are described in the broader education research field.

Accelerated Schools Evaluation

Table 4.1

Qualitative Study Data Collection and Analysis Chart

Areas of School Functioning	AS Process and Philosophical Elements[a]	Goals of Documentation	Focus of Analysis
School governance and decision-making: *the system of management (the structures and processes) that the school uses to organize itself and make decisions*	• AS governance structure • Inquiry • Taking stock • Shared vision	• To understand the presence and nature of cadre, steering committee, and SAW activities	• Schools' implementation of AS governance structures • School's usage of AS taking-stock and inquiry processes • Influence of AS processes and structures on school-wide practices
School culture: *the explicit and implicit values (what is perceived as important), beliefs (what is perceived as reality), and norms (the routine and customary behaviors) that shape the way things are done within the school*	• AS principles and values	• To understand teachers' perceptions of the relationships and interactions among educational programs and the school staff	• Staff perceptions of coherence and unity of purpose in their school's educational program • Staff perceptions on issues of trust and collegial support • Staff perceptions on their level of input into school-level decisions
Curriculum and instruction: *the content, methods, and behaviors leading to the acquisition of knowledge among students*	• Powerful learning framework	• To understand teaching and learning practices in reading and mathematics, with special attention to primary grades	• Schools' usage of the AS powerful learning framework as a tool for instructional change
Capacity-building: *the supports that enable school community members to acquire training and knowledge as needed to grow and sustain implementation of a school reform process*	• Coaching	• To understand the nature and extent of the technical assistance that schools received specifically to facilitate their implementation of the AS approach	• Presence and use of an AS coach • Nature and extent of contact with AS network resources and/or activities

NOTES: In this table, AS stands for the Accelerated Schools model.

[a]The alignment of school functioning areas to specific structural and philosophical elements of the Accelerated Schools approach was determined by the evaluators for ease of presentation and analysis. In practice, developers of the Accelerated Schools approach espouse that elements of the model overlap, affecting multiple areas of school functioning (and each other) in a dynamic and reiterative fashion.

other words, the sample schools regularly implemented a process to identify priority needs (taking stock and vision setting); they created cadres to investigate, or conduct "inquiry" on, targeted issues and problem areas; and steering committee members reviewed cadre proposals, which (if approved) would go to the school-as-a-whole (SAW) for input and final decisions.

The use of cadres, the steering committee, and the SAW in formulating school change ideas and making decisions was consistent across the sample schools. The cadres that were established using the Accelerated School approach tended to be viewed as instrumental and driving forces in school-level planning. During the time of the site visit,[5] all but one school had cadres in place that met an average of once a month; the number of cadres during any given school year ranged from three to six. Each school also had a steering committee, made up of lead representatives from the cadres along with school administrators, that convened monthly to get updated reports on each cadre's work, review cadre proposals, and discuss overall issues affecting the school. Similarly, the sample schools reported that they held monthly SAW meetings at which the broader school community could provide feedback and participate in decisions about proposed strategies.

It was routine for teachers and school administrators to participate actively as members of the cadres, the steering committee, and the SAW. Participation among other school community members was less consistent. In five of the sample schools, noncertified school staff frequently participated in cadre, steering committee, and SAW activities. One school reported that its governance meetings regularly included a central office district administrator and a community volunteer. It was rare, however, for students and parents to participate regularly in Accelerated Schools governance structures.[6]

Staff in nearly all the sample schools cited lack of sufficient time as a key challenge to sustaining implementation of the Accelerated Schools approach to governance and decision-making. Nonetheless, meetings of ASP governance structures have become a fixed element of their school-year calendars, and some schools have been able to build meeting time into the regular school day. For example, one school extends the length of its school day and thus banks the equivalent of five days over the course of the school year to make time for monthly cadre planning meetings. Another school releases its students two hours early every Wednesday throughout the school year, in order to conduct staff planning meetings. (The cadres meet every first Wednesday of the month, the steering committee meets every second Wednesday, and the SAW convenes every third Wednesday; the fourth Wednesday is reserved for grade-level meetings.) Similarly, staff at a third school have been creative (and persistent) in their efforts to secure the time needed for governance meetings. A site visitor from the evaluation team described the evolution of this school's strategy: "They initially tried to create cadre meeting time during class time by placing other personnel in classrooms [to release teachers], but found this was not feasible. Ultimately, the school got a waiver from the state to begin school five minutes earlier and end after lunch one day a week. The time they freed up was used for cadre meetings."

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[5] One sample school did not have cadres in place because its focus was on selecting a new principal for the upcoming school year, which therefore deferred other staff activities.

[6] Most schools reported that parent participation was encouraged but difficult to achieve consistently.

- **The sample schools appear to have institutionalized the use of taking-stock and inquiry processes to identify and examine their improvement goals.**

The initial taking-stock process was viewed as a major undertaking by most of the sample schools. As described in Chapter 2, taking stock is a reflective process that helps the school community to assess its strengths and weaknesses, to establish or reaffirm a shared vision of learning for the school, and to identify goals to achieve that vision.

Several sample schools have instituted an ongoing taking-stock process to allow for reflective management of their improvement goals. In particular, one school has made taking stock an annual process for shaping the agenda for change. Before the start of each school year, staff are convened for two days for the purpose of identifying improvement goals for the coming year. Teachers work in grade-level teams to review the previous year's test scores and the results of teacher, student, and parent surveys conducted each spring. Target areas are identified and become the focus of cadre work for the school year. School staff describe this process as "mini taking stock" and report that it helps to keep cadre work relevant: "We don't hold on to a stagnant cadre." Similarly, staff at another school use an end-of-year teacher survey to guide their planning. The survey asks teachers to reflect on what went well during the school year and what could be improved. Results of the survey are reviewed during the summer and are used to establish improvement priorities for the coming year. At a third school, an annual taking-stock process is used to refine the school's vision and reaffirm or identify new cadre focal areas:

> We have a vision statement and it isn't set so that it stays. It changes as we think it needs to change. . . . At the end of each year, the school-as-a-whole reflects on the past year and sets the cadres for the following year. . . . We talk about what worked and what didn't work, and then that kind of sets the agenda for what we want to think about for the next year and that generates the cadres.

School staff also reported that they use an ongoing inquiry process — albeit modified, in many instances, to accommodate time constraints and local regulations. As recommended in the *Accelerated Schools Resource Guide*,[7] staff were likely to use the inquiry process when they had to make determinations about adopting or modifying activities that affected school-wide operations. Decisions affecting a specific grade or other smaller portion of the school community continued to be made through more traditional mechanisms, such as grade-level meetings or an administrative team. Often in such cases, a cadre would not be assigned to investigate, nor input solicited from the SAW, before finalizing a decision to implement a particular strategy or change. The issue of time was the primary reason cited for not fully using the inquiry process to guide *all* school-level decisions, as reflected in the following comments from staff representing various schools:

> We went through the [inquiry] process the first time exactly as prescribed. It took a year and a half. [Since] then we accelerated the acceleration part — any shortcut we can find that doesn't take away from the process.

> We never used the inquiry process all the way. A lot of what they said in the [*Accelerated Schools Resource Guide*] was too laborious, too much paperwork . . . when

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[7] Hopfenberg et al., 1993.

> [our school] went to modified calendar we used the [inquiry] process thoroughly. We spent a year researching the issue before deciding to put it into place.

> We stopped doing every step [of inquiry]. We had to tailor-make it. . . . We believe inquiry is a framework — we don't need to do it the exact way. That's why some schools have difficulty with the program, because they want to do every step exactly the way the [*Accelerated Schools Resource Guide*] says. For instance, with inquiry, you're supposed to look at all the possible ways to achieve a goal. We identify the ways we want to achieve the goal without discussing every possible way to make it happen.

Staff at a school that used inquiry to inform the decision to implement a modified-calendar school year provided one example of the inquiry process in action. This school's decision was based on a two-year research and consensus-building process that utilized inquiry techniques to inform work of the cadres, the steering committee, and the SAW. The initial idea to investigate a modified calendar arose in response to students' comments on a survey, which indicated that they wanted to be at the school more. As described by the school's Accelerated Schools coach:

> It happened gradually. Our taking-stock student surveys showed that kids wanted more time in school. One student even said he wanted [the school] to become a boarding school. We felt we needed to provide more time for kids to learn. This gave faculty the impetus for thinking about ways of doing that, which eventually led to the modified calendar. In 1995, a group of teachers were at a conference and heard a presentation on year-round schooling and that was the first time someone said out loud, "Why don't we think about a year-round school?" The idea was presented to the school-as-a-whole to develop a cadre that would focus on studying the feasibility of year-round. In 1996 we did an in-house study with pre/post-testing of students. We tested students at the end of the school year and again in the fall and students' scores had dropped. In 1997 we developed a modified-calendar cadre to research the modified schedules. Faculty visited schools in [two other states]. We did surveys of the staff and had a principal from a modified-calendar school visit [our school]. In [Spring] 1997 the cadre presented [a plan] to the school-as-a-whole and they voted to make a request to the school board to begin implementation in Fall 1998. After we got approval from the board we presented the idea to parents — we did presentations in housing developments and churches.

In 1998, this school became the first school in its county and one of 10 schools in its state to implement the modified school calendar. The school year begins in July and operates on nine-week semester cycles separated by three-week intersessions. The first week of intersession is a program that provides remediation to targeted students who are lagging behind academically; the second week's program provides a theme-based enrichment curriculum targeted at all students; and the third week is vacation.

- **Ideas generated through the decision-making structures of the Accelerated Schools approach have shaped school-wide operations in ways that are helping the sample schools achieve their improvement goals.**

School staff readily cited outcomes from using the Accelerated Schools approach that they felt significantly enhanced the school's learning environment, and cadre work served as the impetus for many of these changes. Planning based on the processes and structures of this approach has led to school changes ranging from new playground designs, to student attendance monitoring policies, to the length of the school year. The pattern of decision-making fostered by the Accelerated Schools approach indicates an initial focus on issues of student discipline, school facilities, and parental involvement before moving on to specific content areas of curriculum and instruction. As teachers during one focus group described it: "Initially we worked on a lot of pet peeves and pet projects." For example, at one school, teachers reported that their facilities cadre made great strides. The cadre members prompted the school to send the district office a list of repairs that were needed, and they got parents involved in the lobbying effort. They also invited television cameras to the school to videotape trouble spots (such as rusted sinks). Using the media turned out to be an effective strategy — the sinks were fixed the following year.

Staff at another school credited the Accelerated Schools approach with changing teacher compensation policies. Prior to implementing this approach, grade-level chairpersons at the school were given a stipend to compensate them for the additional time they spent in fulfilling administrative duties for their departments. With implementation of the Accelerated Schools approach, however, all teachers in the building began taking on leadership and planning roles. The SAW agreed to negotiate with the local teacher's union and was successful in having the stipend funds divided among all faculty members. Although the amount of stipend per teacher was not significant, this action was cited by staff as symbolizing the school's commitment to changing the decision-making dynamics among staff and to supporting a culture of shared responsibility for students.

During the early years of Accelerated Schools implementation at a third school, a cadre was formed that focused on student discipline. This cadre helped the school to identify and institute a nationally known student discipline program that led to the creation of school-wide rules of conduct and included teacher training. In addition, the cadre generated ideas to modify activities in common areas of the school, like the playground and the cafeteria, because a lot of student confrontations were found to start in such areas. Based on this cadre's proposal, the school renamed its cafeteria after the school's mascot and piped in music during the lunch hour in order to calm students' behavior. The school also replaced the long cafeteria tables with small, round tables and encouraged teachers to eat lunch with the students (a practice the researchers observed during the site visit). Staff at this school reported that, in combination, ideas generated from the cadre worked well in quelling student discipline problems: "Our students' behavior turned around immediately."

The focus of work that has been spearheaded by Accelerated Schools governance processes and structures has, over the longer term, shifted toward specific content areas of curriculum and instruction. The statements of one school administrator captured the most common reason cited for this pattern of evolution:

> We're starting to [focus] more [on] curriculum and instruction which was an intent five or six years ago, but there were so many other areas that needed to be addressed that were strongly in our faces that we had to deal with. Our facility, the building, was horrendous; it was just terrible. A lot of those things have been addressed and have improved so much that now we're at the point where we can start focusing on curriculum and instruction and that's why we have the new cadre areas.

During the time of the site visits to the sample schools — at least five years after the launch of the Accelerated Schools reform in these sites — the majority of cadres that were in place focused on instructional content areas such as reading, writing, and mathematics. Section IV of this chapter describes in detail the ways in which curriculum and instruction have changed at the sample schools since they began implementing the Accelerated Schools approach.

III. School Culture

Perceptions of school staff — primarily teachers' — were used to understand the nature of relationships and the work culture operating in the sample schools. The examination of school culture focused on teachers' perceptions centering on three issues: (1) coherence and unity of purpose in the school's educational program, (2) trust and collegial support, and (3) teacher input into school-level decisions.

As the comments below indicate, the major finding about school culture is that the Accelerated Schools decision-making structures and processes have been effective in creating and/or nurturing a school culture that reflects the principles and values that undergird this approach. The trend across schools was that teachers perceived their work environment as encouraging broad-based participation and equity in decision-making and as promoting an atmosphere of collaboration, trust, and experimentation. Such perceptions are consistent with meeting the maturity criteria for ASP implementation.

Particularly noteworthy is that teachers felt that the Accelerated Schools approach fostered unity by strengthening connections among various program initiatives that were operating in their school. This is important because past research has indicated that perceived "coherence" in academic programming planning is critical to the successful implementation (and thus the outcomes) of school change efforts.[8]

- **Teachers reported strong feelings of trust and support from other teachers and administrators at their school.**

At one school, teachers credited the Accelerated Schools decision-making structures with changing collegial dynamics of the staff: "It became more of a team effort rather than going into your classroom, shutting the door, and starting to work without being connected to the whole [educational] program." This sentiment appeared to be especially relevant for fine arts, physical education, and special resource teachers, who reported that their cadre involvement enabled them to interact with other teachers on curriculum planning in a way that was not possible through the traditional structure of grade-level meetings. A reading teacher explained the impact of the Accelerated Schools approach this way:

> I was a remedial reading teacher . . . more or less . . . and many times what [I was] doing was not really connected with what the classroom teacher [was] doing. . . . Once we became an Accelerated School, I was able to put my ideas out . . . [and] my responsibility as a remedial teacher changed somewhat. I would go into the classroom and set up an early literacy program that really bonded [the remedial teachers] with the classroom teachers. . . . It was not just first and second grade; we worked with the whole staff and our emphasis [as a school] is now on literacy.

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[8] King and Newmann, 1999.

> . . . I think being able to be a decision maker in the Accelerated Schools process helped that along.

Comments from a teacher focus group at another school reflected similar sentiments:

> A strength of the [Accelerated Schools] process is that you can have differing viewpoints and people don't get ugly about it. The faculty is congenial and respectful of each other. . . . It's not like this in other schools [I've worked in]. In other schools you see teachers in one grade level backstabbing other teachers. Here it feels like a family. . . . We have unity because we plan together. We wouldn't have that if we didn't have Accelerated Schools.

Staff at another school described their work environment prior to using the Accelerated Schools approach as "isolated" with "little positive rapport, communication, or collaboration among teachers." With implementation of the approach, teachers reported that they "work together and collaborate within their grade as well as across grades." An administrator at this school described the impact this way:

> [The Accelerated Schools approach helps us see that] it's important to be reflective, collaborative, to do what works. When I came everyone did their own thing. It was secretive. . . . Now, there's feedback, collaboration, and planning.

Teachers at another school echoed the belief that the Accelerated Schools approach nurtured collegiality:

> Before Accelerated Schools, when we had a problem and people didn't agree [on how to solve it], we didn't have a process in place to talk about how you can disagree, but still work something out. Before [teachers] wouldn't share things with each other unless you were part of this group of teachers or that group, but nothing was open to everyone. . . . There is tremendous interaction among the teachers. It's not threatening to ask for help. It was not always this way. At first, people were hesitant to join the cadres, but it has helped our socialization. A lot of schools you go into don't have that trust.

- **Teachers felt that implementing the Accelerated Schools approach had enhanced their input into decision-making, bringing more balance to the exchange of ideas between administrators and other school staff.**

Generally speaking, teachers in the sample schools felt empowered and tended to be satisfied with their level of decision-making input and communication mechanisms. In fact, school staff typically reported that the Accelerated Schools approach provided, for the first time, sufficient tools to make their input into decisions equitable. Nearly all schools in the sample reported that previous attempts to establish inclusive decision-making had fallen short. Below are sample comments from administrators and teachers who shared the view that decision-making had been improved:

> We had school-based management programs before . . . , but they never gave us a process — a how to get there. [Accelerated Schools] gave us a process.

> The Accelerated Schools program has given us a structure. We work as a team.
>
> Everything we do comes out of the [Accelerated Schools governance] process. . . . People can trust the process will give them an opportunity to have input.
>
> In the past strong personalities have been dominant in decision-making. Now it's more balanced.
>
> The first thing that came out of the cadres was their ability to get everyone involved. There's been no school-based program to ever come through here that ever gave this type of opportunity to participate.
>
> Staff here are really involved in all aspects of decision-making, adopting curriculum, [and input into] anything that is really going to directly affect us. We are a part of [decision-making] whether we are approving [something] or whether we are designing the change, or finding out if we need to make the change. Teachers are really a part of it. . . . We are really into our decision-making, and our opinions and ideas are valued.
>
> All ideas here are equal. No matter if you have 20 years of experience or one year of teaching. [The Accelerated Schools approach] made it that everybody can have a voice, no matter your comfort level. If you're not comfortable talking in a whole-staff meeting, you might feel comfortable speaking out at a cadre meeting.
>
> We don't have a dictator here . . . [the principal] is willing to let the rest of us have say and power. . . . We're all kind of equal sitting at this table and that makes a big difference. And [the principal's] not just playing the role and saying, "Yeah, we can all do that," and have our opinions, but then goes back to her office and does what she wants to do anyway. That's one of the reasons that I'm here.
>
> [The] Accelerated Schools [approach] did emphasize that everyone be invited to the table. We have a custodian here that said this was the first time anyone in the school had asked for his opinion about anything. It's a very moving process.

At one school, the Accelerated Schools process was credited with helping to develop systematic staff communications. Staff post an "Accelerated Schools Bulletin Board" that displays a copy of the school's vision statement; minutes of cadre, steering committee, and SAW meetings; and a list of systematic changes that have been implemented since the launch of the reform. The bulletin board is located in a well-traveled hallway of the building and is used both to inform and to provide feedback, allowing teachers to see "at a glance" what they have accomplished through the Accelerated Schools process. Procedures for regularly posting or otherwise distributing minutes of cadre and steering committee meetings are also in place at four other schools in the sample.

- **Teachers expressed a sense of cohesion among elements of their educational programs, which they tended to attribute in large part to the coalescing nature of the Accelerated Schools governance structure.**

The Accelerated Schools approach was frequently credited with providing mechanisms that promote an awareness of and coherence among the various school improvement strategies that teachers found themselves implementing at the sample schools. For example, teachers at one school reported:

> We do have quite a few initiatives [here], but in my opinion it is because of the principles of Accelerated Schools and the governance structure that we have been able to put all of the things that we do under [one] umbrella. . . . There may be times when you hear, "Oh boy, here comes something else," [because] we do have Coalition of Essential Schools, Accelerated Schools, the critical friends group, and Caring Communities, but all of these efforts are working toward the same end. . . . [Through] the governance structure of the school [teachers] can come to see that everything fits under the umbrella of Accelerated Schools.

Teachers at another school reported similar benefits from using the Accelerated Schools approach, especially in terms of building on strengths, which required breaking the habit of constantly replacing old initiatives with new ones. As one teacher explained:

> We traditionally have tried things and if they didn't work, we'd throw it out and get something different. We've learned that it's not the program that you should go out and buy, but the framework for learning that you should adopt and then build on so you're not always starting something totally new.

The principal at a third school reported that the Accelerated Schools approach had the same effect on her school:

> Before there was a lot of energy, but it was going every different way. We never did the same program two years in a row. [The Accelerated Schools approach] gives us more time to give thought to a program and make it better. This was the biggest change Accelerated Schools has brought along with a guarantee from [teachers] that they will follow through because they had agreed to do it.

At a fourth school, the Accelerated Schools governance structures were viewed as central to the successful implementation of two critical events that required building staff consensus around educational goals. One was the integration into the school of a bilingual program that served 200 students and included the addition of 11 teachers.[9] The second was the completion of the school's annual comprehensive educational plan, which is mandated by the district for school improvement planning. The integration of the bilingual program into the everyday functioning of the main school was facilitated by engaging bilingual faculty in cadre work and as representatives on the steering committee. The director of the bilingual program reported:

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[9] A portion of this school's facility was used to house a separately operated bilingual program. At the start of the 1997-1998 school year, the bilingual program officially came under the main school's administration, resulting in the addition of 200 students and 11 teachers.

> If it were not for Accelerated Schools, we probably would not have had as much contact with other teachers in the building. Now, we plan with regular classroom teachers on aspects of the curriculum that affect the entire school. This planning has made a difference in the curricula used in the bilingual program as well.

In a focus group, teachers described their use of cadres to manage the task of developing this educational plan:

> We found that the Accelerated Schools process gave us a good mechanism for getting the plan done. We used the ideas from the cadres to create the [plan]. We did this through surveys — we looked at a list of all the activities in the building, and each cadre had to report back on how its members felt about the activities, what they liked and didn't like and how they would improve it. We started meetings on the [plan] in February — we met 10 Fridays in a row from 3 to 6 [o'clock]. Normally, [such a plan] would have been written by [our] administrative team. By using the cadres, we had so much input and everyone feels very proud of the hard work that went into this document. It was a good process because the cadres provided a safe forum for people to have a voice and to pass on their comments, good and bad, in an anonymous way.

IV. Curriculum and Instruction

The study's documentation and analysis of sample school practices in curriculum and instruction focused on *reported* applications of the powerful learning framework.[10] As the comments below indicate, a key finding in this regard is that school staff tended to report difficulties in understanding (and thus applying) the powerful learning framework in everyday instructional practice. Consequently, the sample schools varied considerably in their choice of curricular programs and their emphasis on pedagogical approaches. This inhibits the ability to link these findings with findings of the impact analysis, because schools cannot be grouped on the basis of categories of instructional practice or the strength of their implementation of the powerful learning framework.

It should be noted that school staff did perceive that the Accelerated Schools approach had some direct influence on operations specific to curriculum and instruction, centering in particular on increased curriculum alignment across classrooms and grade levels and increased teacher influence on curriculum planning. The illustrative examples below suggest that the sample schools often turned to the Accelerated Schools governance structure (and not to the powerful learning framework per se) to reach decisions about curriculum and instruction. This understanding provides further insight into the process of reaching maturity in the Accelerated Schools approach. In particular, it highlights the amount of time needed in implementing the approach for schools to begin to change what happens in the classroom.

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[10] Given the brief duration of the sample school site visits, the time available for classroom observations was limited. It was thus infeasible to objectively assess the implementation of powerful learning concepts at the sample schools, and so this analysis relies on staff reports.

- **School staff typically expressed difficulties in relating or applying the Accelerated Schools approach to powerful learning in their curriculum planning.**

As described in Chapter 2, the powerful learning concept has historically been the least well-defined component of the Accelerated Schools approach.[11] Not surprisingly, then, staff across the sample schools had varying perceptions of what constitutes powerful learning and generally had only a vague understanding of this concept.

For example, staff at one school reported that they faced frustrations in trying to articulate the practical aims of powerful learning:

> [Powerful learning] was a continuous problem that persisted through the first year of implementation. Few [teachers], if any, felt they ever got a handle on it. The difficult thing was in figuring out what it was and how to *learn* to do it. . . . After a session on powerful learning at one of the SAW meetings, what they have gathered from the [Accelerated School coaches] was mainly that it was learning which affected one at an emotional level. That is, it was something that as an adult, someone could recollect as a meaningful experience in their lives, powerful enough not to have forgotten. . . . So befuddled were teachers that they requested that an instructor come from [the ASP National Center at] Stanford to conduct a special workshop for them on the subject. After the Stanford instructor left . . . [teachers] essentially felt they hadn't received clear messages on what this kind of learning was . . . and continued to question their own understanding of the term and how to make it work in their classrooms.

The principal of another school described its interpretation of the powerful learning concept:

> We had staff development on powerful learning. I had a problem with the term. I see it as looking at best practices. You look at multiple learning needs, that's how our school took it. We interpret powerful learning to be the best teaching practices for your students. The [Accelerated Schools Project] wants you to look at what you're teaching, wants [you] to use more thematic units and open classrooms. You can see how our school has interpreted powerful learning. We're using teachers' expertise to determine what is good for our kids.

Similarly, staff at a third school reported that they were not satisfied with the information they received on how to implement powerful learning. According to the principal there, the impression that staff received from trainers and coaches of the model was that implementation of the Accelerated Schools governance structures would bring the school closer to being able to implement powerful learning. The principal felt that the application of powerful learning was made difficult because the concept was described in an ethereal rather than explicit way.

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[11] Since the time that the study schools launched the Accelerated Schools reform, ASP has refined the powerful learning framework to provide more concrete guidance on how to change instruction, and it has encouraged schools to begin curriculum and instruction reforms earlier in the process.

Staff at a fourth school also found fault with the Accelerated Schools approach for its lack of clarity in guiding the implementation of powerful learning. Administrators at this school who attended conferences sponsored by ASP stated that they "were not impressed with the presentation of powerful learning — it was more show than depth." According to the school's principal: "The original [Accelerated Schools] training had very little focus on powerful learning, which was a big mistake. Training focused more on the inquiry process and organizational structure [of the Accelerated Schools approach]."

One school in the sample represents an exception in this regard, and staff reported that they were using the powerful learning framework to guide curriculum development. Within the school, these teachers developed a powerful learning lab whose participants meet every three weeks throughout the year (including the summer) to discuss and design unit lessons that include five components of powerful learning. Teachers pilot-test the lessons in their classrooms and observe each other teaching them; they then hold debriefing sessions to reflect on and refine the lessons. Once finalized, staff plan to compile the lessons in a "curriculum binder" that will serve as a resource tool to be designed and maintained by the school's curriculum cadre.[12]

- **Curriculum alignment across grade levels and increased teacher influence on curriculum planning were the most frequently cited effects of the Accelerated Schools approach on curriculum and instruction.**

Given the varying interpretations and vague understanding that school staff reported regarding practical applications of the powerful learning framework, no noteworthy trends were found in pedagogical techniques or curriculum choices across the eight sample schools. However, there was consensus among staff at these schools that the Accelerated Schools approach had led to positive changes in curriculum and instruction. The area of change most consistently reported by the schools is the development of strategies to support curriculum alignment across classrooms and grade levels.

For example, the curriculum cadre at one school led an effort to develop subject matter report cards that follow students from one grade to the next. Teachers are expected to assess students on particular skill areas, and the results are recorded on a report card that is designed specifically to track how children are performing from one grade to the next. The report cards give teachers a record of the skill areas that were taught by teachers in previous grades, as well as each student's performance in those areas. This tracking system is viewed as instrumental in enhancing the school's ability to align reading and communication arts skills across all grades.

At another school, a cadre was formed to design school-wide approaches aimed at improving curriculum and instruction. This cadre began its work by proposing to (and gaining consensus from) the SAW that a consultant be hired to help staff develop a school-wide curriculum plan in order to provide continuity and strengthen connections among content areas across classrooms and grade levels. The consultant helped teachers create units of study aligned with content and performance standards issued by the state Department of Education. A parent provided her perspective on how these activities had affected curriculum and instruction at the school:

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[12] At the time of the site visit, this school was pilot-testing its powerful learning lab, and so curriculum products generated from this activity were not yet available. Implementation of powerful learning at this school receives strong principal and district-level support and is guided by an experienced Accelerated Schools coach.

> The thing that impresses me most is the fact that there's continuity now. Because there's [always been] a lot of great teachers in this school . . . , but the thing I always heard was that going from second [grade] to third or to fourth [the teachers] sort of did their own thing. There wasn't time to find out what second [grade] was doing and third [grade] was doing. There wasn't that continuity. There were pockets of good things here and there. I think in this process called Accelerated Schools there is continuity now, and to me that's really important to giving kids a good education.

Teachers at two other schools also reported that the Accelerated Schools approach fostered curriculum alignment and sharing of teaching techniques:

> I would say the main purpose of [the Accelerated School approach] was communication between grade levels, learning what is going on in fourth grade and what do my kids need. . . . I think it gave everybody a better [way] of sharing ideas between grade levels and what is going on . . . just all that kind of coordinating.

> My first year [as a teacher here] I sank or swam on my own, but now teachers share things through the Accelerated Schools process. You know what's going on in other classrooms and it helps you to know what should be going in your classroom. You feel like you're not the only one having problems with something and you can learn from each other. . . . When I was teaching [at another nearby school], teachers were so protective and secretive about what material they were using and how they used it. Teachers who were known to be doing something innovative were also the teachers in graduate school, trying to publish, and so they never wanted to share things. If you tried to use anyone else's ideas, they'd kill you. Here, you are encouraged to share what you are doing. It's always, "Come in" or "Sure you can watch me teach."

Increased teacher input into decisions affecting curriculum and instruction is a second area of change commonly linked to implementation of the Accelerated Schools approach. Such decisions include curriculum adoption, curriculum modification, and teacher training in how to implement new programs. For example, staff at one school described the impact of the Accelerated Schools approach on curriculum and instruction this way:

> One major change is in the way teachers view instruction. It is more of a decision-making process on the part of teachers. Prior to Accelerated Schools we were locked into a curriculum — you were given those curriculum guides and had to stick with that. No flexibility. When we became an Accelerated School, [we] talked about mastery reading and we were able to say, "Okay, this basal [reading curriculum] isn't working and I want to use something else." If that team of teachers felt [something else] would work for them, they were able to do it. That was one of the major changes.

Teachers at another school reported that a similar process for input had developed for them as well:

> Some things we do here are formulated, but there's always room for you to shape it and make it work for our students. I think the [Accelerated Schools] structure helps a lot to make that happen. . . . The Chicago Math Program, we tried it out for a year and evaluated it. It was too heavily focused on manipulatives. What happened was that when students reached third grade and computation skills were required on paper, the kids didn't have the foundation. But we didn't get rid of the program, we just enhanced it [by supplementing the program with a math textbook]. That's what the [Accelerated Schools] process gives you — a way to improve on what you've started instead of saying, "This isn't working; let's scrap it for something new." You'll see that we have had the same [curricular] programs in place for a long time; we just keeping evaluating them and adding to them based on our experience and students' needs.

At another school, the curriculum cadre initiated a pilot math program, which was later adopted school-wide and then district-wide as test results from the school showed marked improvement. A teacher described how using the Accelerated Schools process empowered them to make such decisions:

> You know the district likes everybody to do the same thing. . . . [If it's not working for our students], we want to go out and find something else that is better for our kids. . . . I think we have the confidence to do that and to stand up to [the district]. . . . I do think Accelerated Schools has helped foster that in us.

Teachers in another school described the staff development model that they had designed using the Accelerated Schools approach. Based on a teacher survey indicating that district- and state-sponsored training workshops were not effective, the school spent a year holding discussions centered on staff development needs and interests. The result was a school-designed professional development model that emphasized using teachers instead of consultants to provide staff training: "[We] said, don't bring me a so-called expert. Bring me somebody that is actually doing this in the classroom." The model stressed ongoing in-service instead of single-topic workshops: "We used to have staff development like separated pieces of a jigsaw puzzle. Now, everything has to complement what we're already doing. It has to come together and fit." In 1998, this school received a national award for its staff development plan.

V. ASP's Technical Assistance Delivery Model

The examination of the nature and extent of technical assistance that the sample schools received to facilitate their implementation of the Accelerated Schools approach focused on two things: (1) the schools' access to an Accelerated Schools coach and (2) the nature and extent of the schools' contact with ASP network resources (the ASP National Center and its regional Satellite Centers). Illustrative examples below indicate how the schools have used ASP technical assistance.

The key finding examined here is that no single standard approach to ASP technical assistance was in place at all the schools. Instead, three distinct variations of the ASP technical assistance delivery model were operating in these schools.[13]

- **Schools used a combination of local and network-based expertise to help guide and sustain their implementation of the Accelerated Schools approach.**

As described in Chapter 2, the ASP technical assistance delivery model has evolved over time.[14] Among the sample schools, three variations of the ASP technical assistance model were in effect.

In variation 1, schools had a lot of contact with network resources during their first two years of implementation while also developing local technical assistance capacity to support implementation over time. Establishing this local capacity ultimately made school staff perceive that it was not necessary (and less useful) to continue strong ties with ASP network resources. Two schools in the sample appeared to have technical assistance of this type.

One of these schools has received technical assistance from a locally based Accelerated Schools coach since the initiative was launched in the fall of 1993. Its coach is a district administrator who works part time in this capacity and was trained at the National Center to be an Accelerated Schools coach. During the first three years of the initiative, the coach spent at least one full day a week at the school, facilitating school governance meetings, helping staff develop a consensus-based decision-making process, and guiding analysis of test score, survey, and other information used for taking-stock activities.[15] Comments from staff indicate that they view this coach as integral to their maintenance of the Accelerated Schools approach:

> Most Accelerated Schools use a coach for a year or two. We have held on to our coach throughout. She's like a sounding board for us. She helps present ideas to staff, is our direct contact to get support from the district, and plays devil's advocate. She's at all our cadre and SAW meetings. She comes when called. . . . The Accelerated Schools coach [has helped] determine what cadres will exist. She looked at specific needs of the school from its tests. . . . [The Accelerated Schools coach] has really helped to direct us to best practices and brings suggestions to the faculty.

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[13] It is not certain which factors drove the variations that were found in the ASP technical assistance delivery model. Nor can this report say definitely what effects the variations had on the implementation or impacts of the Accelerated Schools approach. However, the developers of ASP currently advocate, as a prerequisite for implementation of the initiative, that a district- or school-based staff person be provided release time to serve as Accelerated Schools coach. This shift from the original technical assistance model is consistent with education research literature (Floden, Goertz, and O'Day, 1995), which indicates that local capacity-building is an essential element in growing and sustaining any school reform process.

[14] Early in the model's evolution, the developers of the Accelerated Schools approach advocated that coaches (or trainers) be based outside the school, either from the National Center or one of its regional Satellite Centers. The role of the coach at that time was to provide training and oversight that would enable schools to launch and carry out implementation of the Accelerated Schools approach. Typically, the coach would work with school staff over a two- or three-year period, after which time the school would be able to sustain implementation on its own.

[15] The district administrator is now a division head at the district's central office. As such, her time spent working as an Accelerated Schools coach has been reduced. She continues to work in this capacity at the school once a month and assists as requested by school staff.

In addition to the Accelerated Schools coach, staff at this school also received technical assistance from ASP trainers at a regional Satellite Center. When the school first began implementing the Accelerated Schools approach, the principal, the Accelerated Schools coach, and the curriculum specialist at the school attended bimonthly meetings hosted by the Satellite Center. In turn, a trainer from the Satellite Center would visit the school almost monthly and provided two formal training sessions on the inquiry process. After two years, contact with the Satellite Center waned and is currently described by school staff as not very intensive: "Right now, contact with the Satellite Center is mostly through phone calls and we get the [ASP] newsletter." A representative from the Satellite Center visits the school three times a year: "[He] provides moral support and observes." The school had not sent representatives to any of the ASP national conferences. The principal and the Accelerated Schools coach cited cost issues and the lack of usefulness as reasons why the school's contact with the Satellite Center has changed:

> We're not able to go the Satellite Center training activities as much because most of them require trips [out of town]. Also, when we do go, we had to do so much presenting ourselves it was a lot to prepare for and we weren't getting as much back. . . . After a while, we stopped going to the monthly meetings because it seemed geared more toward schools at the beginning of the process.

At a second school, the technical assistance experience evolved in a similar fashion. This school started its implementation of the Accelerated Schools approach with the assistance of a trainer provided through the ASP National Center. During the first two years of implementation, the trainer visited the school from two to five times annually to conduct workshops and facilitate cadre meetings and the like. In addition, during the summer, the school's principal and a kindergarten teacher would attend turnkey training sessions at the National Center. In year 2 of implementation, the kindergarten teacher was released half a day per week to serve as the Accelerated Schools coach, a role that she described as "99 percent of the time convincing people to give [the Accelerated Schools approach] a chance." The principal described the coach as "someone who is not the principal, [but] who can force the issues and ask important questions." However, both the principal and the coach reported that, after the second year of implementation, the school no longer received technical assistance support from the National Center. The school did send representatives to the ASP national conference when resources were available. According to the principal:

> We don't have any connection with the Satellite Centers and we don't get support from the National Center. We are probably providing more support to them than they are to us. Last summer, we had a powerful learning lab here at the school . . . [it] probably would not have happened without [our Accelerated Schools coach]. . . . We are lucky to have [her] as our own local expert.

In variation 2 of the technical assistance model, schools developed local technical assistance capacity to support implementation, but they also maintained ongoing contact with ASP network resources. Such continued contact with the ASP network was considered helpful. Two schools in the sample appeared to have technical assistance of this type.

Staff at one of these schools used a technical assistance approach that consisted of school-based Accelerated School coaches (referred to as "internal" coaches) as well as an "external" coach who is affiliated with a nearby regional Satellite Center. The work of each cadre at the school is facilitated by an internal coach — that is, teachers who help run the cadre meetings, coordinate paperwork generated by the governance process (such as surveys, meeting materials, and agendas), post and update cadre meeting minutes on the teachers' lounge bulletin board, and assist the external coach as needed. Internal coaches typically serve as co-chairs for their cadres and (since 1996) have received college credit from a local university where the Satellite Center is based. The external coach visits the school an average of once a week and serves to train staff (especially new teachers), advise the internal coaches, and facilitate school governance meetings. When asked to do so, the external coach also observed classes and did troubleshooting related to issues of school improvement planning. According to the external coach, this particular technical assistance model was school-initiated: "We use an internal and external coach[ing] model. The [strategy] was not endorsed by the [ASP] National Center." Comments from the principal and a teacher at this school indicate that having both types of Accelerated Schools coaches is viewed as a valuable asset to the implementation process.

> The [external] coach has made a huge difference. You need somebody to crack the whip from the outside. You can't do it from the inside alone. . . . Having an outside coach was especially important for us. She keeps things going. . . . We've been doing [the Accelerated Schools approach] for a long time and it would be easy for the process to become stagnant. The coach keeps momentum going. . . . [The National Center] wanted us to have only the external coach, but [the principal] thought we needed someone inside the school to help push the process. . . . We learned from the first year [of implementation] that we needed to build internal capacity to support the process.

At a second school in this category, three teachers serve part time as Accelerated Schools coaches. Staff reported that they also receive ongoing technical assistance support from a nearby affiliate office of the regional Satellite Center, which is housed at the state Department of Education. The school-based Accelerated Schools coaches attend weeklong summer retreats and meetings throughout the year hosted by the regional Satellite Center.

In variation 3 of the technical assistance model, schools did develop ongoing local capacity to provide technical assistance on the Accelerated Schools approach. These schools reported frequent contact with ASP network resources during their first few years of implementation, although such contacts became more sporadic over time. Nonetheless, staff at these schools still perceive the network as a primary and valued source of technical assistance. Three schools in the sample adopted this variation of the technical assistance model, which is not surprising; this is the variation that most closely reflects the technical assistance delivery design initially advocated by ASP.

At one school, the ASP network staff provided ongoing technical assistance during the first three years of implementation. Two Accelerated Schools coaches based at the state Department of Education and one trainer from the National Center visited the school on a regular basis. Collectively, these technical assistance providers conducted 10 in-service sessions during the school's first year of implementation and continued to work two more years helping school staff to fine-tune processes for taking stock, conducting inquiry, and reaching consensus in decision-making. True to the original ASP model, support from these technical assistance providers to the school officially phased out in the spring of 1996. One of the Accelerated Schools coaches (who no longer works for the state Department of Education) maintains contact with the school. This former coach had discussions with the principal concerning the need to have a school-based coach to ensure that implementation of the Accelerated Schools approach is maintained. School staff attended the annual ASP national conference when resources permitted.[16]

Similarly, the second school in this category used an ASP regional Satellite Center as its primary source of technical assistance on implementing the Accelerated Schools approach. During the first two years of the implementation process, the school received visits from a regional trainer every six to eight weeks. In the following year, contact became more sporadic, and school staff sensed a drop in momentum for the initiative. The principal launched a "revitalization effort" for the Accelerated Schools approach and requested additional assistance from the Satellite Center, which responded by sending a trainer almost weekly to address team-building skills and facilitate communications. Although the Satellite Center had responded quickly to the school's requests for help, the principal reported that ongoing coaching from the start would have been beneficial in helping the school avoid pitfalls and stagnation in the implementation process. Staff in this school attended training and conferences hosted by the National Center to stay abreast of new developments.

The evaluation sample consisted of schools that had adopted the Accelerated Schools model in the early to mid 1990s, an early phase in the model's development and expansion. During that time, the model had clearly defined steps for building governance structures and school culture but was less clear in its methods to achieve powerful learning. And although no one standard approach to ASP technical assistance was found, it was typical for staff across schools to report that the model's available training was weakest in the area of powerful learning. Thus, the implementation study findings suggest that the schools in the study sample had met the maturity criteria for implementation related to priority-setting, governance, and integration of Accelerated Schools principles and values. However, mature implementation of powerful learning was difficult to gauge because staff reports indicate that this concept was not a central focus of the training provided by ASP and had not been well defined. In part because of this, schools often focused on other, local concerns before devoting attention to reforming curriculum and instruction.

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[16] Three representatives from the school attended the 1999 ASP National Conference.

Chapter 5

Impacts on Student Performance

This chapter examines the impacts of the Accelerated Schools reform on a sample of elementary schools in which the reform had been launched in the early 1990s — early in the model's development — and that had reached a mature level of implementation by the beginning of the evaluation. These early-generation programs were chosen because a reform with a process orientation, such as Accelerated Schools, must be implemented for several years before its effects can be evaluated. To measure the impacts of the reform on student performance, the standardized test scores in reading and math of third-grade cohorts in three consecutive baseline years (before the reform was launched) were compared with those of third-grade cohorts in five consecutive follow-up years (after the reform was launched), as illustrated in Figure 1.1.[1] Each cohort included all third-grade students who were tested in a given school in a given year, and all the analyses controlled statistically for year-to-year changes in students' background characteristics (as noted in Chapter 3, these differences were small). Once the impacts were estimated for each school, they were averaged across the eight study schools.

The sections below summarize the impact findings in brief, outline how they were obtained, and explore them in greater detail. Owing to the complex nature of the analysis, the discussion is sometimes technical, but the main findings can be understood on their own.

I. Findings in Brief

The following is a summary of the key impact findings, which hold for students' test scores in both reading and math.

- **Impacts tracked implementation.** In follow-up years 1 and 2, during which the schools focused on establishing supportive cultures and practices, there was no systematic change in average test scores. In follow-up year 3, when schools began to experiment with instructional changes intended to promote powerful learning, test scores declined somewhat. Finally, in follow-up years 4 and 5, test scores gradually rose above the baseline level as instructional changes were implemented more fully.

- **By follow-up year 5, average reading and math scores were 0.19 standard deviation and 0.24 standard deviation above their respective baseline levels.** These impacts are statistically significant and of modest size by conventional standards.[2] They are also comparable to the impacts of class size on student achievement found in the well-known Tennessee class-size experiment.[3] Relative to the populations against which students in the sample schools were scored, the present impacts reflect an overall increase in average reading performance of 6 percentile points, from the 37th percentile at baseline to the 43rd percentile in follow-up year 5; and an overall increase in average math performance of 7 percentile points, from the 46th percentile at baseline to the 53rd percentile in follow-up year 5.

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[1] Although five consecutive years of baseline data were available, the analyses reported here are based on only the three most recent baseline years. A companion to the present report (Bloom, 2001) lays out the methodology used for the present analysis in greater detail and explains why only three years of baseline data were used. The companion report also demonstrates that the impact estimates based on the three most recent years of baseline data are close to those based on all five years of baseline data.

- **The initially lowest-performing schools were the most likely to experience large impacts**. The schools with the lowest test scores relative to their state or national norm at baseline were the most likely to experience large relative gains in average test scores.
- **The impact of the Accelerated Schools reform appears to reflect mainly an increase in the scores of students who were in the middle of the test score distribution in their school.** The reform did not appear to affect the scores of students who were at the lower end of the distribution.
- **Nevertheless, the reform improved the performance of otherwise low-performing students.** At baseline, even students whose scores fell in the middle of their school's distribution generally scored below the state or national average. This was especially true of middle-performing students at the initially low-performing schools.

II. Challenges for the Analysis

For several reasons, it was not possible to construct a single readily interpretable measure of the impacts of the Accelerated Schools model on student performance for the eight schools in the sample. Because of this, the sections below present a series of impact estimates, each of which reveals a different facet of the reform's effects.

One major challenge for the impact analysis is that all the test scores used to measure student performance are standardized relative to a norming population, that is, are *norm-referenced.* Hence, they measure relative performance, not absolute performance expressed in terms of specific skills acquired or achievement levels attained. Although the tests used by some of the schools in the sample were designed also to measure absolute performance — that is, are *criterion-referenced* — different tests did so in different ways. Thus, it was not possible to express the impact estimates for individual schools in terms of a common absolute benchmark or criterion such as a number of correct answers or a percentage of students who reached a specific level of performance. To make the magnitudes of the impact estimates interpretable, it was therefore necessary to develop ways of expressing impact estimates in relative terms.

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[2] As discussed later in this chapter, these findings are *effect size* estimates, which are used frequently to report the impacts of education (and other) programs. Their interpretation is based on benchmarks for assessing effect sizes proposed by Cohen (1977) and Lipsey (1990).

[3] For recent summaries of effect size estimates from this study, see Nye, Hedges, and Konstantopoulos (1999) and Finn and Achilles (1999).

A second challenge for the impact analysis is that the sample schools administered different standardized tests, which in turn were "normed" with respect to — that is, scored against — different populations of students (however, each school administered the same test over the entire eight-year study period). Whereas half the schools used tests normed with respect to their statewide population of third-graders, the rest used tests normed with respect to a national population of third-graders. Hence, the relative impacts of the Accelerated Schools reform on different schools' average standardized test scores mean different things. Therefore, the impact estimates for each school had to be converted into a common metric to allow the estimates to be combined across schools.

A third challenge for the impact analysis was that the Accelerated Schools reform, like other education initiatives, could in principle affect the distribution of student performance in any number of ways. For example, it might raise the performance of all students, across the full spectrum of backgrounds and abilities, by the same amount (perhaps by motivating all students to try harder). If this were the case, the initiative would increase average performance without affecting its variability, that is, the disparities between students. In other words, the distribution of measured student performance before implementation of the initiative would have exactly the same shape after implementation but would be shifted upward. A second possibility is that the initiative improves the performance of students whose backgrounds and abilities lie in the middle of the spectrum. In that case, the initiative would increase average performance as well as its variability. A third possibility is that the initiative raises performance primarily for students with the weakest backgrounds or abilities (perhaps because they have the largest margin for improvement). In that case, the initiative would increase average performance and at the same time decrease its variability by reducing the gap between lower- and higher-performing students.

Owing to the range of possible impact patterns and the different policy implications of each, it was important to develop ways to distinguish among them. Doing so required estimating the impacts of the Accelerated Schools model on three measures of student performance: *average* test scores, the *distribution* of test scores, and the *variability* of test scores. Taken together, the results of these three analyses provide a more balanced picture of how the Accelerated Schools model affected the performance of students in this evaluation than could any single analysis.

III. How Impacts Were Estimated

The impacts of Accelerated Schools were estimated using a *backward-looking interrupted time-series* analysis. Backward-looking refers to the fact that schools in the sample were chosen retrospectively (after they had implemented the Accelerated Schools model). Interrupted time-series analysis refers to an evaluation design in which outcomes at multiple points before an intervention is launched (during its baseline period) are compared with those at one or more points after it is launched (during its follow-up period). In this study design, which has been used to evaluate many different kinds of programs,[4] the outcomes observed at baseline are used to project what the outcomes would have been at follow-up in the absence of the intervention.[5] The difference between actual and projected outcomes during the follow-up period provides an estimate of the *impact* of the intervention (what the intervention caused to happen).

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[4] See, for example, Cook and Campbell (1979).

The present impact analysis focuses on third-grade achievement in reading and math as reflected in standardized test scores. These outcomes are highly relevant for judging the success of a primary school because reading and math are the two main areas of early academic development. The third grade also marks the midpoint of the elementary school experience, and third-grade performance is a good predictor of academic achievement in later grades. Furthermore, because many elementary schools regularly test their third-grade students, it was possible to identify a sample of schools that had records of third-grade scores on the same test for consecutive academic years. Lastly, by the third grade it was possible for some students in the sample to have been exposed to the Accelerated Schools model for up to three years, which should be enough time for an elementary school reform to produce impacts on performance. Table 5.1 lists the standardized tests used to measure third-grade performance, the norming populations against which the tests were standardized, and the calendar years comprising the three-year baseline period for each school in the sample.

As explained in Chapter 3, the schools in the present evaluation were chosen partly for having experienced no or few major changes, such as redistricting or implementation of other reforms, during the study period that could affect the pattern of student test scores over time. Nevertheless, one or two schools experienced shifts over time in the background characteristics of their third-grade students. To account for these shifts, changes in the background characteristics for which data were available were controlled for statistically by including them as independent variables in a regression model that was used to estimate impacts from the interrupted time-series data.[6] Thus, all the impact estimates presented in this report are *regression-adjusted* differences between follow-up outcomes and baseline outcomes.[7] The full list of background characteristics used for these analyses were gender, race/ethnicity, whether the student was overage for the third grade, free/reduced-price lunch status, special education status, and whether English was the student's first language. Because some schools in the sample did not have data for all these characteristics, different background characteristics were used in the regression models for different schools. Table 5.2 indicates which characteristics were used for each school.

IV. Impacts on Average Test Scores

A first step in assessing the impacts of the reform on the mature, early-generation Accelerated Schools in the present sample is to estimate its impacts on *average,* or *mean,* reading and math test scores.

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[5] This hypothetical outcome is usually referred to as a *counterfactual.*

[6] See Bloom, 2001.

[7] Because most schools in the sample experienced little or no shift over time in the background characteristics of their third-grade students, the regression adjustments had little effect on the impact estimates (see Bloom, 2001).

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Table 5.1

Standardized Test Used by Each School in the Sample

School	Name of Test	Calendar Baseline Years[a]	Norming Population
Sheppard, CA	Comprehensive Test of Basic Skills 4	1988-1990	National
PS 108, NY	Degrees of Reading Power (reading) California Achievement Test (math) 5	1991-1993	State National
Memminger, SC	Basic Skills Assessment Program	1989-1991	State
Blanche Pope, HI	Stanford Achievement Test 8 and 9	1991-1993	National
Lucy W. James, MO	State Mastery and Achievement Test	1990-1992	State
Shepard, MO	Stanford Achievement Test	1990-1992	National
McCleery, IL	Comprehensive Test of Basic Skills	1991-1993	National
Mary Wright, SC	Basic Skills Assessment Program	1991-1993	State

SOURCES:
Basic Skills Assessment Program, A User's Guide to BSAP Score Reports, South Carolina State Board of Education, 1998, pp. 2-4.
California Achievement Tests, Fifth Edition, McGraw-Hill, 1996, p. 16.
Comprehensive Tests of Basic Skills Technical Report, Fourth Edition, Macmillan/McGraw-Hill, 1991, p. 87.
The DRP: An Effectiveness Measure in Reading, College Entrance Exam Board, 1987, pp. 137-139.
State Mastery and Achievement Tests, Technical Manual, South Carolina State Department of Elementary Education, 1998, p. 13.
Stanford Achievement Test Series Spring Norms Book, Ninth Edition, Harcourt Brace, 1997, p. 11.

NOTES: In order to preserve the confidentiality of schools' test score results, the order of sites in this table differs from that of subsequent tables which identify schools by letters (A-H).

[a] Years listed represent the spring semesters of the baseline school years.

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Table 5.2

Demographic Characteristics Controlled for at Each School in the Sample

School	Overage for Grade[a]	Gender	Ethnicity	Free or Reduced-Price Lunch Status	Special Education Status	Repeater Status[b]	Language
A	✓	✓		✓	✓		
B	✓	✓			✓	✓	
C	✓	✓	✓	✓		✓	
D		✓	✓	✓		✓	
E	✓	✓	✓		✓	✓	
F	✓	✓	✓			✓	
G	✓	✓	✓	✓		✓	
H		✓	✓				✓

SOURCE: Student demographic data provided by each school.

NOTES: Estimates were adjusted using ordinary least squares to control for demographic characteristics of sample members.

[a] Age was calculated as of April 15 of the spring semester.

[b] Repeater status was determined by whether the same individual student identifier appeared in two or more consecutive years.

A. Obtaining the Estimates

These estimates were calculated separately for each follow-up year at each school. The estimates for each follow-up year were then averaged across schools.[8] For example, the impact on the average math test score at a particular school in follow-up year 1 was estimated as the difference between its average math score in that year and that during the baseline period.[9] The impact on each school's average test scores in each subject area in each year was likewise obtained by comparing the average with its baseline counterpart.

Estimates of both the magnitude and the statistical significance of the Accelerated School reform's impacts on average test scores were obtained in this manner. However, owing to the small size of the student samples at each school and the limited ability of interrupted time-series analysis to rule out alternative explanations for test score changes at a single school, the findings for individual schools are not as reliable or valid as those for the full sample of schools. As a result, the focus here is on full-sample impacts rather than impacts on individual schools.

To average the impact estimates across schools, which administered different tests, the scores were first converted to a common metric using standard procedures for combining impact estimates across studies.[10] For a given school, the first step was to express the impact estimate for each follow-up year as a multiple of the standard deviation of that school's individual test scores during the baseline period.[11] In this way, all the impact estimates were transformed into standard deviation units. Thus, for example, an impact estimate of 0.25 indicates that the average test score for a particular follow-up year lay 0.25 standard deviation above the corresponding average for the baseline period. Because these impacts are expressed in standard deviation units, they can be combined across schools. This type of impact estimate, which is used widely in evaluation research, is referred to as an *effect size.*

Although judgments about whether a specific effect size is large or small are ultimately arbitrary, some guidelines do exist. For example, many researchers use the rule of thumb that effect sizes of around 0.20 are small, around 0.50 moderate, and more than 0.80 large.[12] Empirical support for this categorization was provided by an analysis[13] of the distribution of 102 average effect sizes from 186 syntheses of treatment effectiveness studies, most of them drawn from education research. The bottom third of this distribution (small effect sizes) ranged from 0.00 to 0.32; the middle third (moderate effect sizes) ranged from 0.33 to 0.55; and the top third (large effect sizes) ranged from 0.56 to 1.26.

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[8] Schools were weighted equally in calculating these means because the analysis focused on impacts for the average school in the sample. For a rationale, see Bloom (2001).

[9] The analysis was originally to entail fitting a regression-adjusted trend line through the five years of baseline test scores for each school and using this trend line to project for each school in each follow-up year what the mean score would have been without the Accelerated Schools initiative. However, in almost all cases, the slopes of these baseline trends were not statistically significantly different from zero (see Bloom, 2001). Therefore, all projections for the follow-up period were based on regression-adjusted baseline mean scores.

[10] See, for example, Hedges and Olkin (1985).

[11] The unadjusted standard deviation of all test scores for the three-year baseline period at each school was used for this purpose (separately for reading and math).

[12] This rule of thumb was proposed by Cohen (1977).

[13] Lipsey, 1990.

Another benchmark against which to compare the effect size estimates in this evaluation is the findings from the Tennessee class-size experiment mentioned earlier in this chapter. This study is a relevant point of reference for three reasons: (1) Like the present evaluation, it examined a major effort to improve student performance at the elementary school level; (2) it estimated program impacts using a randomized experiment, the most valid way to find out what difference an intervention makes; and (3) it used a definition of effect size comparable to that used here.[14] In the Tennessee experiment, the intervention was a reduction in class size from the standard range of 22 to 26 students to a range of 13 to 17 students. This reduction had effects on average reading and math test scores of between 0.15 and 0.25 standard deviation.[15]

B. Findings

Once the impact estimates for the individual schools were transformed into the same units, it was possible to compute the overall impact across schools in each follow-up year and to determine the statistical significance of each average. Figure 5.1 illustrates the results of this "pooled" impact analysis for reading test scores. Each point in the figure represents the average reading score for a specific year relative to the overall average score in the baseline period. The distance between each point and the nearest point on the horizontal axis represents (in standard deviation units) how much it differs from the baseline average.

First consider the pattern of reading scores during the baseline period. The scores varied somewhat from year to year around the baseline average, but they were generally quite stable.[16] This stability reflects the fairly large sample of students whose scores went into the average calculated for the full sample of schools and the fact that year-to-year fluctuations for individual schools tend to average out when the results for multiple schools are combined.

Next consider the pattern of scores during the follow-up period. In follow-up years 1 and 2, there was virtually no change relative to the average baseline level. In follow-up year 3, however, there was a statistically significant decline in the average reading score of -0.15 standard deviation relative to the average baseline level.[17] In follow-up years 4 and 5, the average score gradually rebounded, lying 0.19 standard deviation above the baseline average in follow-up year 5 (this difference was statistically significant).

Now consider the corresponding findings for math test scores, which are summarized in Figure 5.2. Once again, note that during the baseline period the average scores for each year

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[14] Comparing effect size estimates across studies that measure program impacts in different ways can lead to serious problems (see Olejnik and Algina, 2000). As explained in Chapter 6, it is therefore inappropriate to compare effect size estimates from the present study with those from analyses of program impacts based on student growth curve models (for example, Ross, Sanders and Wright, 2000).

[15] See, for example, Finn and Achilles (1999); and Nye, Hedges, and Konstantopoulos (1999).

[16] A corresponding analysis including all five baseline years indicates that the average reading scores varied slightly from year to year but exhibited no systematic trend over time (Bloom, 2001).

[17] The statistical significance of an impact estimate indicates whether it is likely to be "real" as opposed to a result of random sampling or estimation error. Statistical significance is not necessarily an indicator of the magnitude or importance of an effect. For instance, even a very small effect can be statistically significant if found in a sufficiently large sample.

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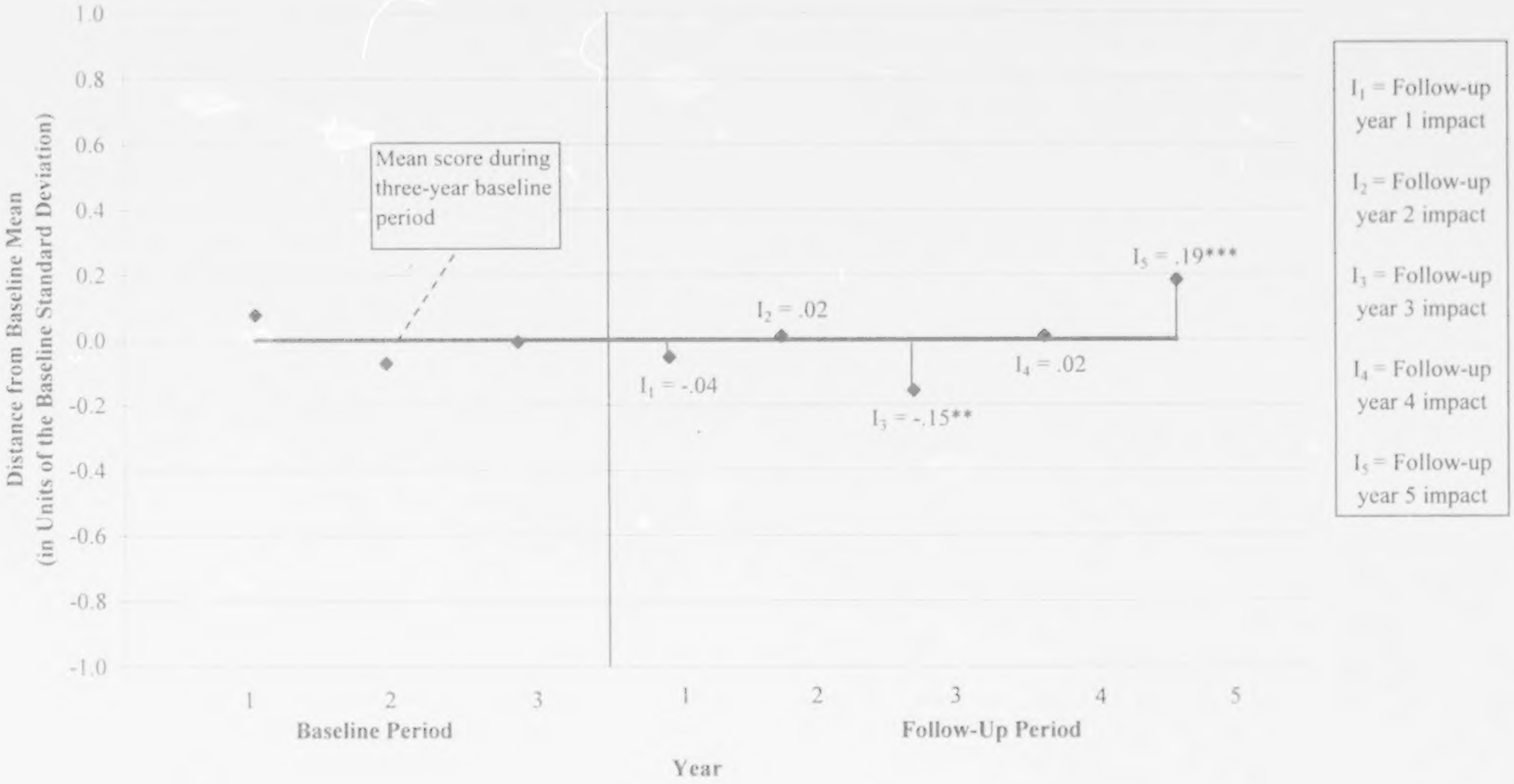
Figure 5.1

Annual Mean Reading Scores for the Pooled Sample of Schools During the Baseline and Follow-Up Periods Relative to the Overall Baseline Mean



(continued)

Figure 5.1 (continued)

SOURCE: MDRC calculations using student test scores and demographic data provided by each school.

NOTES: The sample includes all third-grade students tested during the study period at each school.

Estimates were adjusted using ordinary least squares to control for demographic characteristics of sample members.

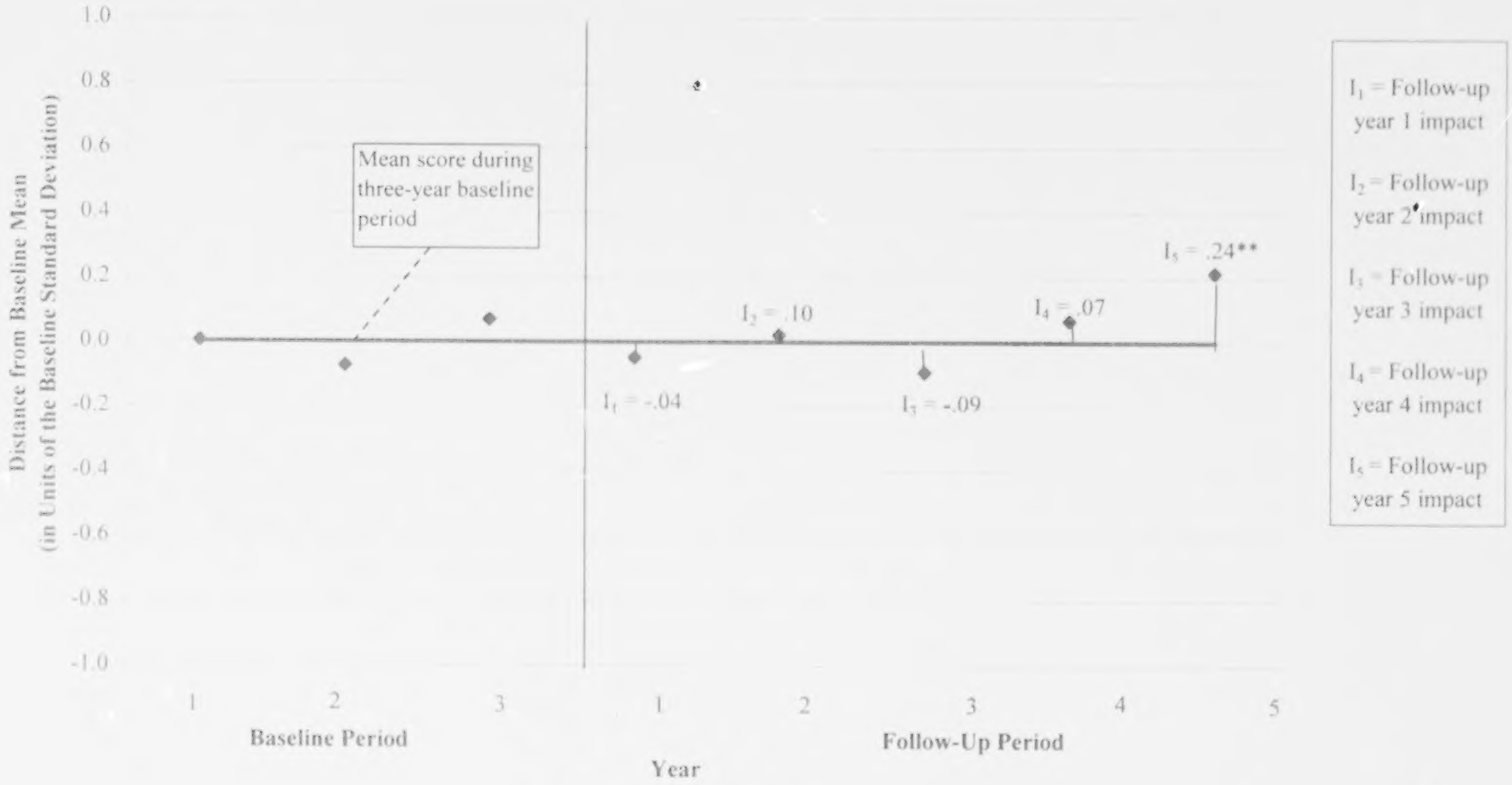
A two-tailed test was applied to differences between the baseline and follow-up test scores. Statistical significance levels are indicated as ***= 1 percent, **= 5 percent, *= 10 percent.

Findings in this figure represent equally weighted averages in which all schools received the same weight regardless of their sample sizes.

Accelerated Schools Evaluation

Figure 5.2

Annual Mean Math Scores for the Pooled Sample of Schools During the Baseline and Follow-Up Periods Relative to the Overall Baseline Mean



(continued)

Figure 5.2 (continued)

SOURCE: MDRC calculations using student test scores and demographic data provided by each school.

NOTES: The sample includes all third-grade students tested during the study period at each school.

Estimates were adjusted using ordinary least squares to control for demographic characteristics of sample members.

A two-tailed test was applied to differences between the baseline and follow-up test scores. Statistical significance levels are indicated as ***= 1 percent, **= 5 percent, *= 10 percent.

Findings in this figure represent equally weighted averages in which all schools received the same weight regardless of their sample sizes.

fluctuated around the baseline average. This stability was followed by modest fluctuations during follow-up years 1 and 2. In follow-up year 3, the average math score, like the corresponding reading score, fell below the baseline average. In follow-up years 4 and 5, however, the average score rebounded: By follow-up year 5, it was 0.24 standard deviation above the baseline average (this difference was statistically significant).

C. Interpretation of the Findings

The foregoing findings are consistent with the implementation results presented in Chapter 4. During the first two years of implementation, the focus of attention was on changing school governance, decision-making, and culture. It was only later that attention was turned to changing instructional practices. However, there was confusion about what the instructional component of the Accelerated Schools model (powerful learning) was supposed to be, and it took time to implement this feature of the reform.

In light of this, perhaps the most plausible interpretation of the combined pattern of impact and implementation findings is the following. In follow-up years 1 and 2, few or no changes were made to instructional practices, and thus few or no systematic changes in student performance were observed. By follow-up year 3, as schools began to change their instructional practices but had not yet worked out the details, instruction might actually have been less effective for students than it had been previously, and — perhaps as a result — student performance declined temporarily. In follow-up years 4 and 5, however, as curricular and teaching changes began to take hold and faculty learned how to use the new materials and approaches that had been adopted, student performance began to improve.

By follow-up year 5, the average test scores in reading and math exceeded those during the baseline period by 0.19 and 0.24 standard deviation, respectively. These impact estimates fall in the small to modest range by conventional standards and are of a size comparable to the achievement gains found in the Tennessee class-size experiment.

D. Findings by School

Although the exact estimates of impacts for each follow-up year varied considerably from school to school, the basic pattern of impacts for the whole sample over time is also reflected in most of the school-level impacts. In other words, the pattern across schools is not driven by impacts in just one or two schools.

To see this point, consider the impact estimates by school and follow-up year presented in Tables 5.3 and 5.4. The bottom row in each table shows the average impact estimate for each year, with each school weighted equally. Most schools experienced a decline in test scores in follow-up year 3, with a gradual increase thereafter. Not all the schools attained a positive and statistically significant impact in follow-up year 5, but the overall average impact in this year was positive and statistically significant.

E. Findings by School Relative to State or National Norms

To place the impact findings in a broader context, the estimates of the average baseline and follow-up scores for each school are expressed in terms of each school's state or national percentile equivalent in Table 5.5. (School C had no test score data for follow-up year 5 and is therefore not included in the table.) The main findings appear below.

Accelerated Schools Evaluation

Table 5.3

Impacts on Mean Third-Grade Reading Scores

	Standardized Impact (Effect Size) per Follow-Up Year				
School	Year 1	Year 2	Year 3	Year 4	Year 5
A	-0.32 *	-0.17	-0.43 **	-0.26	0.05
B	0.00	-0.09	-0.28 **	-0.16	-0.06
C	-0.11	-0.31	-0.03	-0.22	N/A
D	-0.05	-0.39 ***	-0.23	-0.17	-0.27 *
E	0.16	0.39 **	-0.28 *	-0.24	0.15
F	0.36 **	0.28 *	0.54 ***	1.05 ***	0.98 ***
G	-0.35 **	0.06	0.02	0.30 *	0.43 ***
H	-0.05	0.39 **	-0.49 ***	-0.16	0.06
Average	-0.04	0.02	-0.15 **	0.02	0.19 ***

Accelerated Schools Evaluation

Table 5.4

Impacts on Mean Third-Grade Math Scores

	Standardized Impact (Effect Size) per Follow-Up Year				
School	Year 1	Year 2	Year 3	Year 4	Year 5
A	-0.19	0.34	-0.56	-0.08	0.50
B	-0.01	0.03	-0.06	-0.24	0.00
C	0.23	-0.37	-0.39	0.05	N/A
D	-0.22	-0.31	-0.12	0.05	-0.04
E	0.35	0.51 *	0.32	0.51 *	0.24
F	-0.09	0.19	0.07	0.21	0.32
G	-0.26	0.41	0.31	0.33	0.69 ***
H	-0.16	-0.04	-0.27	-0.28	-0.06
Average	-0.04	0.10	-0.09	0.07	0.24 **

(continued)

Tables 5.3 and 5.4 (continued)

SOURCE: MDRC calculations using student test scores and demographic data provided by each school.

NOTES: The sample includes all third-grade students tested during the study period at each school.

Estimates were adjusted using ordinary least squares to control for demographic characteristics of sample members.

A two-tailed test was applied to differences between the baseline and follow-up test scores. Statistical significance levels are indicated as ***= 1 percent, **= 5 percent, *= 10 percent.

Findings in these tables represent equally weighted averages in which all schools received the same weight regardless of sample sizes.

Accelerated Schools Evaluation

Table 5.5

The Percentile Equivalent of Each School's Mean Baseline and Follow-Up Scores Relative to Its State or National Norming Population

	Reading Percentile		Math Percentile	
School[a]	Baseline Period	Follow-Up Year 5	Baseline Period	Follow-Up Year 5
A	21	23	36	50
B	54	51	53	45
D	56	48	63	61
E	43	48	45	53
F	24	54	43	57
G	26	39	31	56
H	43	45	49	47
Average[b]	37	43	46	53

SOURCE: MDRC calculations using student test scores and demographic data provided by each school.

NOTES: Estimates were adjusted using ordinary least squares to control for demographic characteristics of sample members.

[a] This table includes findings only for the seven schools with test score data for follow-up year 5.

[b] The percentile rank for the average school was obtained by (1) converting the percentile score for the average student at each school to a Normal Curve Equivalent (NCE), (2) computing the mean NCE for all schools, and (3) converting the mean NCE back to percentiles. This process thus uses the cardinal properties of NCEs for computing means and the ordinal properties of percentiles for reporting findings.

- **During the baseline period, third-graders whose scores were average in their own school typically scored below average — and, in some schools, far below average — statewide or nationally**. The average baseline scores for five schools were at least 5 percentile points below the average of their norming population in both reading and math.

- **By follow-up year 5, the average score for each school in each subject was noticeably closer to its corresponding state or national average**. By the end of the follow-up period, the number of schools scoring five or more percentile points below their norming group's average was only three in reading and one in math. Furthermore, five schools had average math scores at or above their norming group's average.

- **On average, the schools increased their students' relative performance by 6 percentile points in reading and 7 percentile points in math during the five-year follow-up period.** The average reading score increased from the 37th percentile during the baseline period to the 43rd percentile in follow-up year 5. The corresponding increase in the average math score was from the 46th percentile to the 53rd percentile.

- **The lowest-performing schools at baseline experienced the largest improvements in test scores.** Schools F and G, whose average baseline reading scores were at the 24th percentile and 26th percentile relative to their respective norming populations, experienced the largest percentile improvements in reading performance. Likewise, the largest relative improvements in math performance were observed at schools A, E, F, and G, whose average baseline math scores were at the 36th percentile, 45th percentile, 43rd percentile, and 31st percentile relative to their respective norming populations.

V. Impacts on the Distribution of Test Scores

Estimates in the previous section represent the impacts of the Accelerated Schools initiative on average student performance. However, as discussed earlier, it is possible that different types of students responded differently to the initiative. If this were the case, then focusing exclusively on how average performance was affected would mask important variation that could shed light on the reform's effects. This section therefore estimates the impact of the Accelerated Schools model on the distribution of student performance and considers where in the distribution of student performance the observed impacts were most likely experienced.

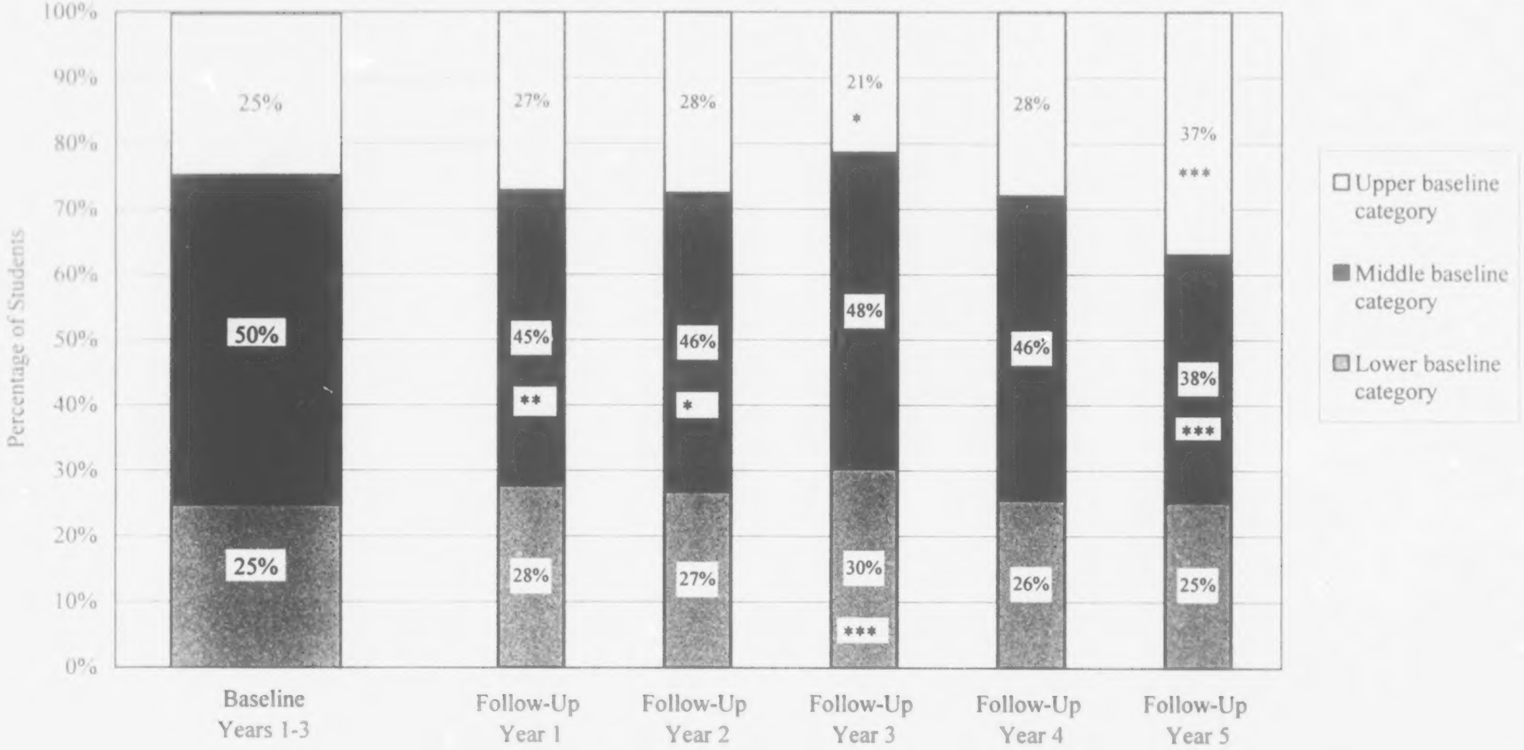
A. The Baseline Distribution

As a first step in this process, Figures 5.3 and 5.4 show the reform's estimated impacts on the distribution of test scores. The first vertical bar in Figure 5.3 represents the distribution of individual reading scores for all the third-grade students in the baseline cohorts. For each school, the scores were divided into three categories: (1) those in the upper baseline quartile (the upper 25 percent of all baseline scores), (2) those in the middle two baseline quartiles (the middle 50 percent of all baseline scores), and (3) those in the lower baseline quartile (the lower 25 percent

Accelerated Schools Evaluation

Figure 5.3

The Distribution of Reading Scores Across Baseline Categories for All Eight Schools Combined



(continued)

Figure 5.3 (continued)

NOTES: The sample includes all third-grade students tested during the study period at the eight Accelerated Schools selected for evaluation.

Estimates were adjusted using ordinary least squares, controlling for demographic characteristics of sample members.

A two-tailed test was applied to differences between the baseline and follow-up test scores. Statistical significance levels are indicated as ***= 1 percent, **= 5 percent, *= 10 percent.

Rounding may cause slight discrepancies in the calculations of sums and differences.

Measures in this figure represent equally weighted averages. Each school received identical weight regardless of sample size.

The expected distribution in the absence of the Accelerated Schools reform is 25%-50%-25%.

of all baseline scores). Hence, by definition, 25 percent of the baseline scores were in the upper baseline category, 50 percent were in the middle baseline category, and 25 percent were in the lower baseline category.

When framing the analysis in this way, it is important to note that students who scored in the upper baseline category in their school were not necessarily above average statewide or nationally, that is, relative to their norming population.[18] Rather, they scored above the average of other third-graders in their school during the baseline period. Because the average baseline score for most schools in the present sample was below the state or national average, many students in the upper baseline category probably were not above average statewide or nationally.

B. Changes in the Overall Distribution

Defining the upper, middle, and lower baseline categories for each school with respect to its distribution of test scores during the baseline period provides a consistent framework for gauging subsequent changes in this distribution. First, for each follow-up year the percentage of students in each school whose test scores were in each baseline category was computed. Then the percentage of students in each category was averaged across all schools.[19]

Figure 5.3 illustrates the results of this analysis for reading test scores. As can be seen, there was not much change in the distribution of reading scores during the first two follow-up years. The small changes that did occur comprised increases of 2 to 3 percentage points in both the upper and lower categories, consistent with the finding that average reading scores fluctuated little during the first two follow-up years.

In follow-up year 3, however, there was a statistically significant decrease in the percentage of students scoring in the upper baseline category and a statistically significant increase in the percentage scoring in the lower baseline category. This finding is consistent with the decline in average test scores in follow-up year 3.

The situation began to improve thereafter. Thus, by follow-up year 5, 37 percent of the students scored in the upper baseline category, as opposed to 25 percent during the baseline period. This 12 percentage point increase was statistically significant. Given that there was no change over the same period in the percentage of students scoring in the lower baseline category, the increase in the percentage in the upper baseline category appears to have been produced entirely by a corresponding decrease in the percentage of students scoring in the middle baseline category (from 50 percent to 38 percent).

Figure 5.4 presents a similar picture for math test scores. First, there was a modest downward shift in the distribution of test scores in follow-up year 3, with slightly fewer scores in the middle baseline category and slightly more in the lower baseline category. Second, there was a

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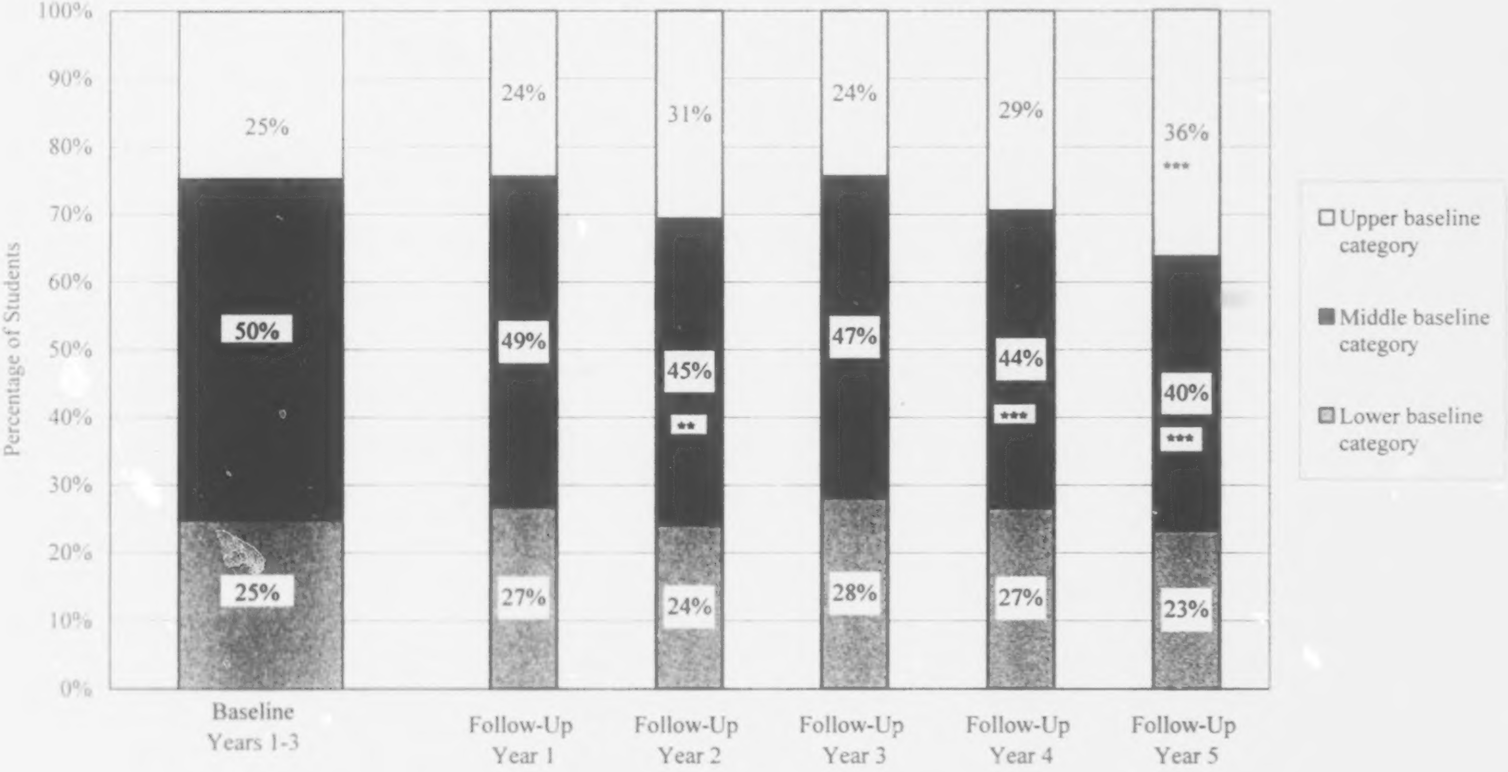
[18] The baseline categories were not defined in terms of where students scored relative to their state or national counterparts because the differences in the schools' norming populations would have made it extremely difficult to summarize findings across schools.

[19] For example, in follow-up year 5 the regression-adjusted percentages of students whose math scores were in the upper baseline category in the seven schools for which follow-up year 5 data are available are 43 percent, 24 percent, 23 percent, 42 percent, 46 percent, 53 percent, and 23 percent. The mean, 36 percent, is the corresponding percentage of scores in this category for the average school in the sample.

Accelerated Schools Evaluation

Figure 5.4

The Distribution of Math Scores Across Baseline Categories for All Eight Schools Combined



(continued)

Figure 5.4 (continued)

NOTES: The sample includes all third-grade students tested during the study period at the eight Accelerated Schools selected for evaluation.

Estimates were adjusted using ordinary least squares, controlling for demographic characteristics of sample members.

A two-tailed test was applied to differences between the baseline and follow-up test scores. Statistical significance levels are indicated as ***= 1 percent, **= 5 percent, *= 10 percent.

Rounding may cause slight discrepancies in the calculations of sums and differences.

Measures in this figure represent equally weighted averages. Each school received identical weight regardless of sample size.

The expected distribution in the absence of the Accelerated Schools reform is 25%-50%-25%.

noticeable upward shift in follow-up year 5, which appears to have been due almost entirely to an increase in the percentage of scores in the upper baseline category (from 25 percent to 36 percent) and a corresponding decrease in the percentage of scores in the middle baseline category (from 50 percent to 40 percent). Also, in follow-up year 5, there was very little change (from 25 percent to 23 percent) in the percentage of scores in the lower baseline category.

In sum, it appears that virtually all of the improvement in average test scores — both in reading and in math — was experienced by students who would have scored in the middle baseline category without the Accelerated Schools reform.[20] There was very little sign of improvement at the low end of each school's performance distribution.[21] Nevertheless, most of the impacts of the reform were experienced by otherwise low-performing students, because in the schools that experienced the largest impacts, students who scored in the middle of their school's performance distribution were typically well below the statewide or national average.

C. Changes in the Distribution by School

Tables 5.6 and 5.7 expand on the preceding findings by listing the percentage of students by school who scored in the upper baseline category during each follow-up year.[22] Recall that, by definition, 25 percent of all baseline scores fell in this category. Thus, an increase relative to 25 percent in a given follow-up year represents an improvement and a decrease relative to 25 percent represents a decline.

The most striking and consistent findings are for follow-up year 5: Four of the seven schools witnessed noticeable improvements in reading (with 33 percent, 38 percent, 51 percent, and 63 percent of their students scoring in the upper baseline category), and three of these increases were statistically significant.[23] The remaining schools exhibited virtually no change (with 23 percent, 26 percent, and 26 percent in the upper baseline category). Although the specific schools that experienced improvements were different, the findings are essentially the same for math. Four of the seven schools exhibited marked improvements (with 42 percent, 43 percent, 46 percent, and 53 percent of their students scoring in the upper baseline category), and three of these increases were statistically significant.[24] The other three schools experienced virtually no

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[20] It is not possible on the basis of existing data to determine with certainty from where in the distribution the additional students who scored in the upper baseline category at the end of the follow-up period came. However, to conclude that they came from the lower baseline category would require assuming that an equal number of students moved down from the middle to the lower baseline category, which seems implausible.

[21] It is possible that the reform improved scores in the lower baseline category somewhat but not enough to move them into the middle baseline category. In addition, it is possible that the reform increased scores in the upper baseline category, which could not be revealed by the present analysis. However, given the modest improvement in average scores and the marked increase in the percentage of students scoring in the upper baseline category, it seems most likely that almost all the test score increases produced by the Accelerated Schools model were experienced by students who would have scored in the middle baseline category without the model.

[22] Appendix Tables A.1-A.4 provide corresponding findings for the middle and lower baseline categories.

[23] It is possible that four unrelated events produced the improvements observed in these schools. However, four different, unspecified explanations are less plausible than the single hypothesis that the Accelerated Schools reform led to improvements that it was designed to produce.

[24] Given the small sample size for each school, only very large percentage changes at the school level are statistically significant.

Accelerated Schools Evaluation

Table 5.6

Percentage of Reading Scores in the Upper Baseline Category for Each Follow-Up Year

School	Year 1	Year 2	Year 3	Year 4	Year 5
A	18	21	11 *	13	26
B	30	23	15 **	25	26
C	21	16	18	18	N/A
D	26	13 **	17	27	23
E	40 **	47 ***	14 *	22	33
F	42 ***	37 **	53 ***	68 ***	63 ***
G	12 **	25	27	30	51 ***
H	30	39 **	17	22	38 **
Average	27	28	21 *	28	37 ***

Accelerated Schools Evaluation

Table 5.7

Percentage of Math Scores in the Upper Baseline Category for Each Follow-Up Year

School	Year 1	Year 2	Year 3	Year 4	Year 5
A	20	44 *	5	21	43
B	25	31	27	22	24
C	36	19	16	35	N/A
D	11	15	20	26	23
E	45 *	36	38	47 **	42 *
F	22	32	28	32	46 **
G	19	42 *	40	37	53 ***
H	16	25	21	15	23
Average	24	31	24	29	36 ***

(continued)

Tables 5.6 and 5.7 (continued)

SOURCE: MDRC calculations using student test scores and demographic data provided by each school.

NOTES: The sample includes all third-grade students tested during the study period at each school.

Estimates were adjusted using ordinary least squares to control for demographic characteristics of sample members.

A two-tailed test was applied to differences between the baseline and follow-up test scores. Statistical significance levels are indicated as ***= 1 percent, **= 5 percent, *= 10 percent.

Findings in these tables represent equally weighted averages in which all schools received the same weight regardless of sample sizes.

change (with 23 percent, 23 percent, and 24 percent of their students scoring in the upper baseline category).

Based on the distribution analysis, it appears that the observed gains reflect positive changes in a majority of the seven schools in both reading and math.

VI. Impacts on the Variability of Test Scores

To flesh out the interpretation of the impacts of the Accelerated Schools reform further, the variability of test scores was examined next. Variability was expressed as the standard deviation of each school's individual test scores. To capture the change in test score variability from the baseline period to a given follow-up year for a specific school, the standard deviation of the scores for each follow-up year was divided by its baseline counterpart.[25] A result of greater than 1 indicates an increase in variability, and a result of less than 1 indicates a decrease in variability.

Recall that the increase in average reading and math scores observed in follow-up year 5 was produced by an increase in the percentage of scores in the upper baseline category, a corresponding decrease in the middle category, and virtually no change in the lower category. Thus, the distribution of reading and math scores in this year was wider than it was during the baseline period, meaning that the variability of scores had increased. More specifically, the estimated standard deviation of the test scores in follow-up year 5 was 13 percent larger than its baseline counterpart for reading and 11 percent larger for math.[26] Thus, by apparently affecting mainly students who were in the middle of the baseline distribution, the Accelerated Schools reform, as it was implemented in the schools in this evaluation, somewhat increased the disparities in students' test performance.

VII. Implications of Student Mobility for the Findings

Student mobility, which is especially high in urban areas, can reduce the amount of time that some students are exposed to an education initiative and thus dilute its impacts. For example, toward the last two years of the follow-up period, by which time the Accelerated Schools model had been almost fully implemented, between 7 percent and 18 percent of the students who were enrolled in one of the study schools at the beginning of an academic year were no longer enrolled there at the end of the year (this percentage is the fall-to-spring *move-out rate*).[27] To extrapolate the implications of this pattern over multiple years requires knowing the year-to-year move-out rate, which in turn requires knowing how many students left the study schools over the summer. Unfortunately, this information is rarely tabulated by schools and was not available for the present study. However, the estimated year-to-year move-out rate of 20 percent in the Chicago public school system provides a rough approximation of typical move-out rates in a major urban area.[28]

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[25] As described in Bloom (2001), this was accomplished by (1) estimating, for each follow-up year and for each school, the variance of the residuals of the regression used to measure impacts on average student performance; (2) estimating the corresponding variance of the baseline residuals; (3) using the ratio of these two estimated variances as an F statistic to test the statistical significance of their difference; and (4) using the square root of this ratio to estimate the corresponding ratio of standard deviations.

[26] Appendix Tables A.5 and A.6 present the corresponding findings for each follow-up year both by school and for the full sample of schools.

[27] The fall-to-spring move-out rates in the six schools for which appropriate data were available were approximately 7 percent, 9 percent, 15 percent, 16 percent, 16 percent, and 18 percent. One school, which was located near a military base, reported that, though it did not keep precise records on mobility, its move-out rate was quite high. It was not possible to determine the mobility rate in the remaining school.

If an Accelerated School's fall-to-spring move-out rate is 15 percent (the median rate in the study sample) and its year-to-year move-out rate is 20 percent (the average rate in Chicago public schools), then, by the end of follow-up year 3, 85 percent of its third graders would have been exposed to the reform for at least one full academic year; 68 percent would have been exposed for at least two full years; and 54 percent would have been exposed for at least three full years. Thus, most but not all of the students in the study probably received a substantial dose of the reform during the later follow-up years, when it was largely in place.

To account properly for the fact that not all students did or will receive a full dose of the Accelerated Schools model (or any other multiyear education initiative), it is important to distinguish between two different impact questions.

1. What were the impacts of Accelerated Schools on the typical third-grader when the model was implemented under real-world conditions (which include, among other things, student mobility)?
2. What impacts does the initiative have on third-graders who remain in the same school long enough to receive a substantial "dose"?

The first question focuses on the effectiveness of Accelerated Schools in the real world, at least as the real world now exists. This question, which the present evaluation addresses directly, is relevant for deciding whether to promote broad application of the model.

The second question focuses on the potential effectiveness of Accelerated Schools if it could be operated in a world where students did not change schools or if all schools adopted the model such that all students would be exposed to it regardless of where they went to school. This question is relevant for modifying the model to increase its effectiveness. Based on the data available for the present study, there is no way to address this question directly. However, because most students in the present sample received more than one full year of exposure to the reform once it was finally implemented (during follow-up years 4 and 5), the present findings may provide an approximate answer to the second question, although the impacts found are probably smaller than they would be under conditions of maximum dosage.

Owing to the difference between the two impact questions above, and the different kinds of data required to address them, one should be very careful when comparing the present findings with those of studies that measure the impacts of comprehensive school initiatives only on students who receive extensive program exposure. The latter kind of investigation is exemplified by evaluations that focus on the "growth curves" of test scores across several grades for a group of students who attend the same school for all the grades under study and therefore receive substantial exposure to the program.[29]

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[28] Bryk, Thum, Easton, and Luppescu, 1998.

There are two important differences between findings from growth-curve studies and those from studies like the present one.[30] First, growth-curve analyses estimate the impact of lengthy program exposure, whereas the present study estimates the impact of a mix of exposure lengths. If greater exposure produces larger impacts, then growth-curve analyses will yield larger impact estimates for the same program. A second source of noncomparability arises from differences in the characteristics of the students represented in the two types of studies. The present study represents all students in a school, regardless of whether they changed schools during the study period, whereas growth-curve analyses include only students with very low mobility. If the impacts of a program are greater for students with stable home (and thus school) environments, then impact estimates based on growth-curve analyses will be systematically larger than those based on studies such as the present one.[31]

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[29] See, for example, Ross, Sanders, and Wright (2000).

[30] A third, unrelated source of noncomparability stems from differences in the definitions of impacts used in the two types of studies (impacts on growth-curve slopes versus impacts on test-score levels), which leads to operational differences in the standard deviations used to compute effect sizes and conceptual differences in the interpretation of effect sizes.

[31] The noncomparability of the two types of study does not mean that one is inherently more correct than the other. They simply address different questions.

Chapter 6

Conclusions and Implications

This chapter reviews the constraints under which the present evaluation of the Accelerated Schools model was conducted, summarizes its main findings, and puts its conclusions and implications in a broader context. The chapter closes with recommendations for future research on Accelerated Schools and other education reforms.

I. Constraints on the Study

The goal of the present study was to provide an early, rigorous evaluation of the Accelerated Schools model's effectiveness in improving student achievement in low-performing elementary schools that serve students at risk of school failure. As discussed in earlier chapters, several factors played a key role in determining what questions the evaluation could address, how it could be designed, and how its findings should be interpreted.

To complete the evaluation within several years, it was necessary to focus on early attempts to implement the Accelerated Schools model, which required that the research design be retrospective. The retrospective design, in turn, precluded use of random assignment, which is generally considered the best way to ensure that the observed effects of an intervention are due to the intervention rather than other factors. In addition, the study was designed to focus on the impacts of the model in elementary schools that had persevered long enough to implement its key components. Because the model takes several years to put into effect, the evaluation also required a lengthy follow-up period; only schools that had implemented the model early in its development — that is, in the early 1990s — could provide data for a sufficiently long follow-up period. Together the above constraints have important implications for what can be concluded from the study's findings.

II. Conclusions from the Study

Implementation of the Accelerated Schools reform was a difficult, time-consuming process. But schools that stuck with the reform were able to improve the school environment appreciably, especially with respect to organizational culture and decision-making. These environmental improvements were followed by increases in students' test scores, although it was not until the fifth year after the initiative was launched that average scores rose above their baseline levels by a statistically significant amount.

The test score increases observed in this evaluation are of modest size by the conventional standards of evaluation research, but they are comparable to those found in the Tennessee class-size experiment, which examined an initiative that is widely considered to have been successful in improving the performance of elementary school students.

The improvements in test scores found in the present study seem to have been concentrated among students who without the initiative would have scored in the middle of the baseline distribution for their school but who with the initiative scored in the upper baseline category. No test score gains were observed among students with weaker academic backgrounds. Though the reasons for the reform's differential impacts on the two groups are unclear, one possible explanation is that student mobility was higher among lower-performing students, which would have decreased their exposure to the reform and thus presumably reduced the impacts that they experienced.

Another important feature of the present findings is that the schools with the lowest average baseline test scores relative to their state or national counterparts were the most likely to see large test score increases during the follow-up period. Thus, even though most of the impacts were concentrated among students who scored near the average for their school, these students typically scored below average statewide or nationally. Thus, judging from the present sample of schools, the Accelerated Schools initiative appears to have been effective for students at risk of school failure.

Lastly, it is important to note that the pattern of test score changes tracked the pattern of program implementation. During the first two years of implementation, when schools focused on changing their organizational cultures and decision-making processes, there was no systematic change in scores. In the third year, as the schools struggled to implement instructional changes with the limited guidance afforded by the early Accelerated Schools model, test scores dropped somewhat. In the final two years of the follow-up period, test scores gradually surpassed the baseline level.

III. Limitations of the Study

The present evaluation was as rigorous as possible given the constraints under which it was conducted. Nevertheless, it has important limitations, which in turn restrict the conclusions that can be drawn from its findings.

A. Drawing Causal Inferences

There are several limits on the causal inferences — that is, conclusions about what caused the observed increases in student achievement — that can be drawn from the present study. As already discussed, it was not feasible to randomly assign each school (or each student) to a program or a control group. In the absence of random assignment, alternative explanations of the study's findings cannot be definitively ruled out.

For example, it is possible that local factors other than the Accelerated Schools reform (such as a change in principal, implementation of another educational initiative, or a sudden rise in teacher turnover) caused changes in test scores that distort the impact estimates. In an effort to rule out this threat, only schools where such changes were believed not to have occurred were selected for the study. Furthermore, while local factors might explain test score changes at a single school, they are less plausible explanations for the overall pattern of changes for the study's sample of eight schools located in seven different states. Still, local events could have influenced the findings of the present study in unknown ways.

In addition, it is possible that the abilities and backgrounds of students who attended the study schools during the follow-up period differ systematically from those of students who attended the schools during the baseline period. To help guard against this possibility, only schools in which the composition of the student body was believed to have remained stable were included in the study. In addition, all analyses controlled statistically for student characteristics for which data were available. However, it is possible that there were shifts in student characteristics that were not accounted for in the analysis.

Lastly, the fact that the estimated impacts of the Accelerated Schools model track the course of its implementation suggests that the initiative caused the impacts, though as explained above other factors may have played a causal role. This caveat notwithstanding, the similarity between the patterns of implementation and impacts, as well as their conformity to plausible hypotheses about what might cause test scores to change, lend credibility to the inference that the reform caused the impacts that were observed.

B. Generalizing Causal Inferences

There are also limits on the ability to generalize the causal inferences that can be drawn from the present evaluation. One such limit stems from the fact that the study focused exclusively on mature Accelerated Schools, which by definition were those that stuck with the reform long enough to implement it. Thus, the present findings suggest what can be achieved by a school that implements the Accelerated Schools model, but they do not indicate the likely outcome for all schools that might try to implement the model (some of which will do so and others of which will not).

Another limit on the generalizability of the findings reflects the fact that it focused exclusively on early-generation Accelerated Schools. Because the reform model now places greater emphasis on early instructional changes, provides clearer guidelines for effecting these instructional changes, and promotes the use of more extensive technical assistance by schools that are trying to implement the model, the impacts of current versions of the model might be larger and occur sooner than those observed in the present study. Also, the schools in the present study constitute neither a random nor a fully representative sample of all mature early-generation Accelerated Schools because they had to meet the research requirements to be selected. In fact, it is difficult to characterize the population that these schools represent. Nevertheless, given the diverse geographic locations and student bodies included in the study, its findings probably reflect a wide range of situations.

Lastly, because no statistically significant increases in average test scores were observed until five years after the reform was launched, the trend of the impacts on third-grade test scores in subsequent years cannot be predicted. Similarly, the study's exclusive focus on the third grade does not allow for predictions about whether the impacts will grow, decay, or remain the same as students advance to later grades.

IV. Future Research

Given that the present findings (as those from any study) are neither definitive nor complete, this final section recommends next steps for future research.

A. Evaluate the Current Accelerated Schools Model

Because the Accelerated Schools model has evolved in identifiable ways that might increase its ability to help schools and students, an important next step is to conduct an evaluation of the current model. Ideally, such an evaluation would include a large sample of elementary schools that represent a clearly definable population, focus on student performance in grades spanning the full elementary-school range, and use a random assignment design.

B. Quantify Costs

The Accelerated Schools model is generally regarded as a relatively inexpensive school reform. Most of the resources needed to implement it can be obtained by reallocating those that the school already has. The only additional resources are those needed to train faculty and staff and hire a part-time coach to facilitate implementation of the reform.

To date, little precise information about the cost of implementing major school reforms, including Accelerated Schools, has been gathered. As discussed in Chapter 1, perhaps the best cost analysis can be found is a study[1] of Accelerated Schools and two other well-known school reform models, Robert Slavin's Success for All and James Comer's School Development Program. According to the analysis, Accelerated Schools is less expensive than the other two models. However, as the author acknowledges, this finding is based on limited data and untested assumptions, and much work on the costs of school reform remains to be done.

C. Synthesize Research Findings

Although attempts to develop and implement school reforms have been under way for well over a decade, little knowledge about the effectiveness of these initiatives has accumulated. The primary reason is the generally weak research designs used in past studies and the resulting lack of credibility of their findings.[2] Recently, however, more rigorous designs have begun to be used in evaluations of education reforms. At the core of these new evaluations are two promising methodological approaches.

The first approach — cluster random assignment, in which groups (such as schools) are randomly assigned — is a direct extension of classical randomized experiments, in which individuals (such as students) are randomly assigned. In education research, cluster random assignment entails randomly assigning each school to a program group, which implements the reform under study, or a control group, which does not implement the reform or delays its implementation for a number of years.[3] This approach has been used in two major studies of the School Development Program, one in Prince George's County, Maryland, and the other in Chicago.[4] The approach is also planned for use in a major evaluation of Success for All.

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[1] Barnett, 1996.

[2] American Institutes for Research, 1999.

[3] For a description and development of the theoretical properties of cluster random assignment, see Raudenbush (1997). For an empirical study of the statistical properties of the cluster random assignment of schools see Bloom, Bos, and Lee (1999).

[4] Cook et al., 2000; Cook, Hunt, and Murphy, 2000.

A second methodological approach, value-added analysis of student-growth curves using hierarchical models, is a sophisticated design based on longitudinal student test data.[5] This approach has been used to evaluate the School Development Program in Detroit;[6] Success for All, Accelerated Schools, and several other reform models in Memphis;[7] and a major effort to institute testing requirements for student promotion in Chicago.[8]

As these and other rigorous studies of education reforms become available, it would be extremely valuable to develop a systematic process for synthesizing their results using methods from the field of meta-analysis.[9] While it is difficult to compare and contrast findings from this growing body of studies (including the present one) because they use different measures and methods,[10] the best way to ensure the future accumulation of knowledge from this body of research is to institute an ongoing systematic process for synthesizing findings across studies.

D. Continue to Do Methodological Research

The present evaluation of the Accelerated Schools model, based on interrupted time-series analysis, offers another avenue for studying education reforms. Specifically, combining interrupted time-series analysis with value-added analysis and hierarchical modeling can leverage the methodological benefits of each. MDRC is presently investigating the methodological properties of this combined approach in three evaluations of school reform initiatives: Project GRAD,[11] First Things First,[12] and Talent Development Schools.[13] Thus, the present study of Accelerated Schools represents the first in a series of efforts to develop better methods for measuring the impacts of education reforms where random assignment is not feasible.

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[5] Meyer (1997) provides a detailed discussion of value-added analysis. Bryk and Raudenbush (1992) offer a comprehensive discussion of hierarchical models.

[6] Millsap et al., 2000.

[7] Ross, Sanders, and Wright, 2000.

[8] Jacob, Roderick, and Bryk, 2000.

[9] Hedges and Olkin, 1985; Cooper and Hedges, 1994.

[10] Olejnik and Algina, 2000.

[11] Ham, Doolittle, and Holton, 2000.

[12] MDRC, 2000a.

[13] MDRC, 2000b.

Appendix A

Supplementary Tables

Accelerated Schools Evaluation

Appendix Table A.1

Percentage of Reading Scores in the Lower Baseline Category for Each Follow-Up Year

School	Year 1	Year 2	Year 3	Year 4	Year 5
A	38 *	28	38	32	22
B	24	24	29	35 **	32 *
C	25	38	20	27	N/A
D	29	40 ***	35 *	32	43 ***
E	20	17	32	33	17
F	27	24	17 *	7 ***	15 *
G	44 ***	23	27	11 **	20
H	15	21	45 ***	29	29
Average	28	27	30 ***	26	25

Accelerated Schools Evaluation

Appendix Table A.2

Percentage of Math Scores in the Lower Baseline Category for Each Follow-Up Year

School	Year 1	Year 2	Year 3	Year 4	Year 5
A	39	23	53 **	31	22
B	28	22	28	34 *	26
C	17	41	33	30	N/A
D	31	35	22	21	28
E	13	13	14	25	30
F	25	18	25	17	22
G	38 *	14	12 *	20	6 ***
H	24	28	39 *	35	29
Average	27	24	28	27	23

(continued)

Appendix Tables A.1 and A.2 (continued)

SOURCE: MDRC calculations using student test scores and demographic data provided by each school.

NOTES: The sample includes all third-grade students tested during the study period at each school.

Estimates were adjusted using ordinary least squares to control for demographic characteristics of sample members.

A two-tailed test was applied to differences between the baseline and follow-up test scores. Statistical significance levels are indicated as ***= 1 percent, **= 5 percent, *= 10 percent.

Findings in these tables represent equally weighted averages in which all schools received the same weight regardless of sample sizes.

Accelerated Schools Evaluation

Appendix Table A.3

Percentage of Reading Scores in the Middle Baseline Category for Each Follow-Up Year

School	Year 1	Year 2	Year 3	Year 4	Year 5
A	44	51	51	55	52
B	46	53	56	41 **	42 *
C	54	46	62	56	N/A
D	46	48	48	41	35 **
E	40	37 *	54	45	50
F	31 ***	39 **	30 ***	25 ***	22 ***
G	44	52	46	59	30 ***
H	56	40	38 **	49	33 **
Average	45 *	46 *	48	46	38 ***

Accelerated Schools Evaluation

Appendix Table A.4

Percentage of Math Scores in the Middle Baseline Category for Each Follow-Up Year

School	Year 1	Year 2	Year 3	Year 4	Year 5
A	41	33 **	42	49	35
B	47	47	46	43	50
C	47	41	51	35 *	N/A
D	57	50	58	53	49
E	42	51	48	28 ***	28 ***
F	53	49	47	50	33 ***
G	43	44	49	43	41
H	60	47	40	49	48
Average	49	45 *	47	44 **	40 ***

(continued)

Appendix Tables A.3 and A.4 (continued)

SOURCE: MDRC calculations using student test scores and demographic data provided by each school.

NOTES: The sample includes all third-grade students tested during the study period at each school.

Estimates were adjusted using ordinary least squares to control for demographic characteristics of sample members.

A two-tailed test was applied to differences between the baseline and follow-up test scores. Statistical significance levels are indicated as ***= 1 percent, **= 5 percent, *= 10 percent.

Findings in these tables represent equally weighted averages in which all schools received the same weight regardless of sample sizes.

Accelerated Schools Evaluation

Appendix Table A.5

Impacts on the Standard Deviation of Third-Grade Reading Scores for Each Follow-Up Year

	Effect Size				
School	Year 1	Year 2	Year 3	Year 4	Year 5
A	1.21 *	1.05	0.98	0.88	1.17
B	1.02	0.99	0.74 ***	1.07	1.20 **
C	1.13	1.00	0.93	1.08	N/A
D	0.96	0.91	1.01	1.03	1.23 **
E	1.16	1.16	0.87	1.11	0.91
F	1.28 ***	1.23 **	1.25 ***	1.22 **	1.49 ***
G	1.06	1.16	1.17	1.01	1.13
H	0.87	1.16	1.19 *	0.99	1.31 ***
Average	1.07 *	1.07 *	1.03	1.05	1.13 ***

Accelerated Schools Evaluation

Appendix Table A.6

Impacts on the Standard Deviation of Third-Grade Math Scores for Each Follow-Up Year

	Effect Size				
School	Year 1	Year 2	Year 3	Year 4	Year 5
A	1.06	1.23 **	1.00	1.11	1.42 **
B	1.03	0.91	0.91	0.96	1.06
C	1.02	1.05	0.81	1.13	N/A
D	0.84 *	0.98	1.03	1.08	1.17 *
E	1.10	1.15	1.08	1.43 ***	1.26 **
F	0.97	0.92	1.03	0.95	1.22 **
G	1.05	1.16	0.99	1.16	0.99
H	0.89	1.12	1.31 ***	1.11	1.17
Average	1.02	1.06	1.03	1.08 **	1.12 ***

(continued)

Appendix Tables A.5 and A.6 (continued)

SOURCE: MDRC calculations using student test scores and demographic data provided by each school.

NOTES: The sample includes all third-grade students tested during the study period at each school.

Estimates were adjusted using ordinary least squares to control for demographic characteristics of sample members.

A two-tailed test was applied to differences between the baseline and follow-up test scores. Statistical significance levels are indicated as ***= 1 percent, **= 5 percent, *= 10 percent.

Findings in these tables represent equally weighted averages in which all schools received the same weight regardless of sample sizes.

Accelerated Schools Evaluation

Appendix Table A.7

Sample Sizes and Demographic Measures for Each Year of the Study Period

	Baseline			Follow-Up					
School	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 4	Year 5	Total
A									
Full sample size	47	53	58	62	71	48	49	27	415
Analysis sample size	44	50	48	49	61	38	39	23	352
Percentage tested	93.6	94.3	82.8	79.0	85.9	79.2	79.6	85.2	84.8
Percentage with lunch benefit	43.2[a]	56.0	66.7	69.4	88.5	73.7	84.6	82.6	70.6
Percentage white	0.00	2.0	0.0	0.0	0.0	0.0	7.7	0.0	1.2
Average age	9.0[a]	8.9	8.8	8.9	8.8	8.9	8.8	8.9	8.9
Percentage overage for grade	4.5[a]	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.9
Percentage female	38.6[a]	50.0	52.1	55.1	54.1	52.6	59.0	60.9	52.8
B									
Full sample size	99	111	125	131	121	138	155	146	1026
Analysis sample size	92	95	119	120	116	123	143	132	940
Percentage tested	92.9	85.6	95.2	91.6	95.9	89.1	92.3	90.4	91.6
Percentage with lunch benefit	N/A	N/A	37.0	37.5	N/A	N/A	30.1	N/A	34.9
Percentage white	100.0	97.9	100.0	98.3	100.0	98.4	100.0	100.0	99.3
Average age	9.4	9.4	9.4	9.3	9.4	9.5	9.3	9.3	9.4
Percentage overage for grade	13.0	7.4	9.2	8.3	8.6	8.1	5.6	2.3	7.8
Percentage female	44.6	47.4	57.1	46.7	56.0	49.6	48.3	51.5	50.2
C									
Full sample size	71	55[b]	70	63	58	67	69		453
Analysis sample size	56	55	54	48	37	45	46		341
Percentage tested	78.9	N/A		76.2	63.8	67.2	66.7		71.7
Percentage with lunch benefit	98.2	96.4	98.1	100.0	100.0	95.6	100.0		98.3
Percentage white	3.6	1.8	1.9	4.2	2.7	2.2	0.0		2.3
Average age	9.7	9.6	9.4	9.4	9.3	9.2	9.4		9.4
Percentage overage for grade	33.9	18.2	24.1	18.8	10.8	11.1	28.3		20.7
Percentage female	51.8	50.9	46.3	35.4	40.5	53.3	56.5		47.8

(continued)

Appendix Table A.7 (continued)

School	Baseline			Follow-Up					
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 4	Year 5	Total
D									
Full sample size	73	75	55	70	85	70	87	78	593
Analysis sample size	73	75	55	70	80	69	87	78	587
Percentage tested	100.0	100.0	100.0	100.0	94.1	98.6	100.0	100.0	99.1
Percentage with lunch benefit	28.8	40.0	41.8	45.7	38.8	50.7	48.3	65.4	44.9
Percentage white	53.4	50.7	52.7	42.9	41.3	34.8	43.7	34.6	44.3
Average age	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Percentage overage for grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Percentage female	54.8	49.3	47.3	52.9	52.5	47.8	46.0	39.7	48.8
E									
Full sample size	109	100	82	60[b]	82	77	74	84	668
Analysis sample size	85	80	65	60	61	63	60	70	544
Percentage tested	78.0	80.0	79.3	N/A	74.4	81.8	81.1	83.3	79.7
Percentage with lunch benefit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Percentage white	2.4	3.8	1.5	1.7	1.6	3.2	1.7	2.9	2.4
Average age	9.5	9.5	9.2	9.2	9.2	9.1	9.1	9.0	9.2
Percentage overage for grade	28.2	20.0	15.4	6.7	6.6	6.3	5.0	7.1	11.9
Percentage female	49.4	52.5	55.4	46.7	49.2	44.4	48.3	47.1	49.1
F									
Full sample size	102	105	105	114	108	112	126	106	878
Analysis sample size	94	99	102	107	94	102	115	79	792
Percentage tested	92.2	94.3	97.1	93.9	87.0	91.1	91.3	74.5	90.2
Percentage with lunch benefit	N/A	N/A	N/A	N/A	N/A	N/A	95.7	100.0	97.9
Percentage white	3.2	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5
Average age	9.0	9.0	9.0	9.0	8.8	8.9	8.9	8.9	8.9
Percentage overage for grade	3.2	6.1	2.0	3.7	2.1	2.9	3.5	1.3	3.1
Percentage female	51.1	52.5	49.0	39.3	48.9	52.0	51.3	44.3	48.6

(continued)

Appendix Table A.7 (continued)

School	Baseline			Follow-Up					
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 4	Year 5	Total
G									
Full sample size	49	54	50	100	95	110	97	118	673
Analysis sample size	33	42	38	70	66	74	65	88	476
Percentage tested	67.3	77.8	76.0	70.0	69.5	67.3	67.0	74.6	71.2
Percentage with lunch benefit	97.0	85.7	97.4	88.6	95.5	41.9	96.9	94.3	87.2
Percentage white	27.3	50.0	52.6	32.9	36.4	25.7	20.0	21.6	33.3
Average age	9.4	9.4	9.2	9.4	9.4	9.5	9.3	9.4	9.4
Percentage overage for grade	18.2	11.9	7.9	17.1	13.6	23.0	10.8	11.4	14.2
Percentage female	48.5	42.9	65.8	48.6	57.6	48.6	46.2	53.4	51.5
H									
Full sample size	66	54	54	55	75	80	73	66	523
Analysis sample size	65	54	54	55	73	80	73	66	520
Percentage tested	98.5	100.0	100.0	100.0	97.3	100.0	100.0	100.0	99.5
Percentage with lunch benefit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Percentage white	69.2	81.5	68.5	67.3	57.5	61.3	56.2	56.1	64.7
Average age	N/A	N/A	N/A	9.1	9.2	N/A	9.0	9.0	9.1
Percentage overage for grade	N/A	N/A	N/A	1.8	6.8	N/A	2.7	6.1	4.4
Percentage female	44.6	53.7	48.1	43.6	54.8	50.0	31.5	42.4	46.1
Total full sample size	616	607	599	655	695	702	730	625	5229
Total analysis sample size	542	550	535	579	588	594	628	536	4552
Total percentage tested	88.0	90.6	89.3	88.4	84.6	84.6	86.0	85.8	87.2
Total percentage with lunch benefit	66.8	69.5	68.2	68.2	80.7	65.5	75.9	85.6	72.6
Total percentage white	32.3	36.0	34.7	30.9	29.9	28.3	28.7	30.7	31.0
Total average age	9.4	9.3	9.2	9.2	9.2	9.2	9.1	9.1	9.2
Total percentage overage for grade	16.8	10.6	9.8	8.1	6.9	8.6	8.4	4.7	9.0
Total percentage female	47.9	49.9	52.6	46.0	51.7	49.8	48.4	48.5	49.4

SOURCE: MDRC calculations using student test scores and demographic data provided by each school.

NOTES:

[a] 25 percent of the data are missing; this number should be interpreted with caution.

[b] Rosters were not available; the sample size includes all students tested.

Appendix B

Qualitative Data Protocols

Accelerated Schools Evaluation

Appendix Table B.1

Initial Contact Form

School Name: ______________________ Date Contacted: __________

Who Contacted:
Name and Title: ______________________
Phone Number: ______________________

Level One Criteria Confirmed:
_____ Launch Date Confirmed:
_____ Grades Served Confirmed:

School Information:
Magnet School? _____ No
_____ Yes Began (year): ____________

Principal (when current
principal took position):
% of school: __________________

School Demographics:
Total Student Enrollment (1997-98): _____
Total 3rd Grade Enrollment 1997-98): _____
Number of 3rd Grade Classrooms (1997-98): _____

Standardized Testing
Do you do this? _________
Which one? _________
What year? _________

Has the **size** of the 3rd grade class changed dramatically in the past ten years? If yes, how?
____

Has the **size** of the student population dramatically changed in the past ten hears? If yes, how?
____

(continued)

Appendix Table B.1 (continued)

Have **demographics** (i.e., ethnic, gender, or socio-economic characteristics) of the student population dramatically changed in the past ten years? How?

____

Do student attend by neighborhood? By parental choice? District placement (e.g. busing)?

____

Are standardized tests administered to students annually?
If yes, which tests?______________________________________

What grades are tested?____________________________________

Have the tests changed in the past ten years?_______________ If so, how?___________

____

May we contact the district? Yes________ No________ (provide reason)

Accelerated Schools Evaluation

Appendix Table B.2

Maturity Screen

School:______________________
Location:_____________________

CADRES

1. What are your cadres?

2. How often do cadres meet?

3. Do they use the Inquiry Process to address their challenge areas?

   Yes:___ No:___

STEERING COMMITTEE

4. Do you have a Steering Committee?

   Yes:___ No:___

5. Who is on the Steering Committee?

6. How often does the Steering Committee meet?

POWERFUL LEARNING

7. Is powerful learning occurring in most of the classrooms and for all the students? "Powerful Learning" as the ASP describes in their literature?

   Yes:___ No:___

(continued)

Appendix Table B.2 (continued)

AS CHANGES

8. What changes (policy or curricular) have been implemented because of acceleration?

OTHER ISSUES

1. How and why did you become an Accelerated School?

2. Does the school work with an Accelerated Schools coach? How long has the coach worked with the school? Where are they based (school-based, district-based, Satellite Center)?

3. Were there any major school initiatives in place at your school prior or during the adoption of acceleration? If yes, what were they?

4. Review demographic and school size changes to see if change occurred gradually or dramatically.

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Recent Publications on MDRC Projects

Note: For works not published by MDRC, the publisher's name is shown in parentheses. With a few exceptions, this list includes reports published by MDRC since 1999. A complete publications list is available from MDRC and on its Web site (www.mdrc.org), from which copies of MDRC's publications can also be downloaded.

Education Reform

Accelerated Schools

This study examines the implementation and impacts on achievement of the Accelerated Schools model, a whole-school reform targeted at at-risk students.

Evaluating the Accelerated Schools Approach: A Look at Early Implementation and Impacts on Student Achievement in Eight Elementary Schools. 2001. Howard Bloom, Sandra Ham, Laura Melton, Julienne O'Brien.

Project GRAD

This evaluation examines Project GRAD, an education initiative targeted at urban schools and combining a number of proven or promising reforms.

Building the Foundation for Improved Student Performance: The Pre-Curricular Phase of Project GRAD Newark. 2000. Sandra Ham, Fred Doolittle, Glee Ivory Holton.

Career Academies

The largest and most comprehensive evaluation of a school-to-work initiative, this study examines a promising approach to high school restructuring and the school-to-work transition.

Career Academies: Early Implementation Lessons from a 10-Site Evaluation. 1996. James Kemple, JoAnn Leah Rock.

Career Academies: Communities of Support for Students and Teachers — Emerging Findings from a 10-Site Evaluation. 1997. James Kemple.

Career Academies: Building Career Awareness and Work-Based Learning Activities Through Employer Partnerships. 1999. James Kemple, Susan Poglinco, Jason Snipes.

School-to-Work Project

A study of innovative programs that help students make the transition from school to work or careers.

Home-Grown Lessons: Innovative Programs Linking School and Work (Jossey-Bass Publishers). 1995. Edward Pauly, Hilary Kopp, Joshua Haimson.

Home-Grown Progress: The Evolution of Innovative School-to-Work Programs. 1997. Rachel Pedraza, Edward Pauly, Hilary Kopp.

Project Transition

A demonstration program that tested a combination of school-based strategies to facilitate students' transition from middle school to high school.

Project Transition: Testing an Intervention to Help High School Freshmen Succeed. 1999. Janet Quint, Cynthia Miller, Jennifer Pastor, Rachel Cytron.

Equity 2000

Equity 2000 is a nationwide initiative sponsored by the College Board to improve low-income students' access to college. The MDRC paper examines the implementation of Equity 2000 in Milwaukee Public Schools.

Getting to the Right Algebra: The Equity 2000 Initiative in Milwaukee Public Schools. 1999. Sandra Ham, Erica Walker.

Education for Adults and Families

LILAA Initiative

This study of the Literacy in Libraries Across America (LILAA) initiative explores the efforts of five adult literacy programs in public libraries to improve learner persistence.

So I Made Up My Mind: Introducing a Study of Adult Learner Persistence in Library Literacy Programs. 2000. John T. Comings, Sondra Cuban.

"I Did It for Myself": Studying Efforts to Increase Adult Learner Persistence in Library Literacy Programs. 2001. John Comings, Sondra Cuban, Johannes Bos, Catherine Taylor.

Toyota Families in Schools

A discussion of the factors that determine whether an impact analysis of a social program is feasible and warranted, using an evaluation of a new family literacy initiative as a case study.

An Evaluability Assessment of the Toyota Families in Schools Program. 2001. Janet Quint.

Opening Doors to Earning Credentials

An exploration of strategies for increasing low-wage workers' access to and completion of community college programs.

Opening Doors: Expanding Educational Opportunities for Low-Income Workers. 2001. Susan Golonka, Lisa Matus-Grossman.

Effects of Welfare and Antipoverty Programs on Children

Next Generation Project

A collaboration among researchers at MDRC and several other leading research institutions focused on studying the effects of welfare, antipoverty, and employment policies on children and families.

How Welfare and Work Policies Affect Children: A Synthesis of Research. 2001. Pamela Morris, Aletha Huston, Greg Duncan, Danielle Crosby, Johannes Bos.

How Welfare and Work Policies Affect Employment and Income: A Synthesis of Research. 2001. Dan Bloom, Charles Michalopoulos.

Minnesota Family Investment Program

An evaluation of Minnesota's pilot welfare reform initiative, which aims to encourage work, alleviate poverty, and reduce welfare dependence.

Reforming Welfare and Rewarding Work: Final Report on the Minnesota Family Investment Program. Volume 2: Effects on Children. 2000. Lisa Gennetian, Cynthia Miller.

Reforming Welfare and Rewarding Work: A Summary of the Final Report on the Minnesota Family Investment Program. 2000. Virginia Knox, Cynthia Miller, Lisa Gennetian.

Canada's Self-Sufficiency Project

A test of the effectiveness of a temporary earnings supplement on the employment and welfare receipt of public assistance recipients.

The Self-Sufficiency Project at 36 Months: Effects on Children of a Program That Increased Parental Employment and Income (Social Research and Demonstration Corporation, Ottawa, Canada). 2000. Pamela Morris, Charles Michalopoulos.

National Evaluation of Welfare-to-Work Strategies

Conceived and sponsored by the U.S. Department of Health and Human Services (HHS), with support from the U.S. Department of Education (ED), this is the largest-scale evaluation ever conducted of different strategies for moving people from welfare to employment.

Do Mandatory Welfare-to-Work Programs Affect the Well-Being of Children? A Synthesis of Child Research Conducted as Part of the National Evaluation of Welfare-to-Work Strategies (HHS/ED). 2000. Gayle Hamilton.

Teen Parents on Welfare

Teenage Parent Programs: A Synthesis of the Long-Term Effects of the New Chance Demonstration, Ohio's Learning, Earning, and Parenting (LEAP) Program, and the Teenage Parent Demonstration (TPD). 1998. Robert Granger, Rachel Cytron.

Ohio's LEAP Program

An evaluation of Ohio's Learning, Earning, and Parenting (LEAP) Program, which uses financial incentives to encourage teenage parents on welfare to stay in or return to school.

LEAP: Final Report on Ohio's Welfare Initiative to Improve School Attendance Among Teenage Parents. 1997. Johannes Bos, Veronica Fellerath.

New Chance Demonstration

A test of a comprehensive program of services that seeks to improve the economic status and general well-being of a group of highly disadvantaged young women and their children.

New Chance: Final Report on a Comprehensive Program for Young Mothers in Poverty and Their Children. 1997. Janet Quint, Johannes Bos, Denise Polit.

Parenting Behavior in a Sample of Young Mothers in Poverty: Results of the New Chance Observational Study. 1998. Martha Zaslow, Carolyn Eldred, editors.

MDRC Working Papers on Research Methodology

A new series of papers that explore alternative methods of examining the implementation and impacts of programs and policies.

Building a Convincing Test of a Public Housing Employment Program Using Non-Experimental Methods: Planning for the Jobs-Plus Demonstration. 1999. Howard Bloom.

Estimating Program Impacts on Student Achievement Using "Short" Interrupted Time Series. 1999. Howard Bloom.

Using Cluster Random Assignment to Measure Program Impacts: Statistical Implications for the Evaluation of Education Programs. 1999. Howard Bloom, Johannes Bos, Suk-Won Lee.

Measuring the Impacts of Whole School Reforms: Methodological Lessons from an Evaluation of Accelerated Schools. 2001. Howard Bloom.

The Politics of Random Assignment: Implementing Studies and Impacting Policy. 2000. Judith Gueron.

Modeling the Performance of Welfare-to-Work Programs: The Effects of Program Management and Services, Economic Environment, and Client Characteristics. 2001. Howard Bloom, Carolyn Hill, James Riccio.

A Regression-Based Strategy for Defining Subgroups in a Social Experiment. 2001. James Kemple, Jason Snipes.

Extending the Reach of Randomized Social Experiments: New Directions in Evaluations of American Welfare-to-Work and Employment Initiatives. 2001. James Riccio, Howard Bloom.

About MDRC

The Manpower Demonstration Research Corporation (MDRC) is a nonprofit, nonpartisan social policy research organization. We are dedicated to learning what works to improve the well-being of low-income people. Through our research and the active communication of our findings, we seek to enhance the effectiveness of social policies and programs. MDRC was founded in 1974 and is located in New York City and San Francisco.

MDRC's current projects focus on welfare and economic security, education, and employment and community initiatives. Complementing our evaluations of a wide range of welfare reforms are new studies of supports for the working poor and emerging analyses of how programs affect children's development and their families' well-being. In the field of education, we are testing reforms aimed at improving the performance of public schools, especially in urban areas. Finally, our community projects are using innovative approaches to increase employment in low-income neighborhoods.

Our projects are a mix of demonstrations — field tests of promising program models — and evaluations of government and community initiatives, and we employ a wide range of methods to determine a program's effects, including large-scale studies, surveys, case studies, and ethnographies of individuals and families. We share the findings and lessons from our work — including best practices for program operators — with a broad audience within the policy and practitioner community, as well as the general public and the media.

Over the past quarter century, MDRC has worked in almost every state, all of the nation's largest cities, and Canada. We conduct our projects in partnership with state and local governments, the federal government, public school systems, community organizations, and numerous private philanthropies.

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